

NORTHERN ALASKA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE FAIRBANKS AK
338 AM ADT THU APR 10 2008
.DISCUSSION...

DISCUSSION...MODELS IN GOOD AGREEMENT THROUGH SHORT TERM...AND 00Z ECMWF AND 00Z GFS NOW IN BETTER AGREEMENT FOR LONGER TERM.

SFC LOW MOVING NE OVER THE ERN INTERIOR THIS MORNING THROUGH THUR NIGHT. THIS WILL BRING SNOW TO MOST OF CENTRAL AND ALL ERN INTERIOR ON THURSDAY AND ALL OF AK RANGE AS WELL. MODEL QPF'S ARE HIGH ENOUGH TO CONTINUE THE SNOW ADVISORIES FOR AK RANGE... ERN 223...AND MOST OF 224 THROUGH THURS AFTN.

THE NORTH SLOPE WILL SEE SOME AREAS OF DENSE FOG FOR THE MORNING HOURS DISSIPATING AFTER NOON.

REST OF FORECAST AREA UNDER LIGHT CYCLONIC FLOW WITHIN LARGE UPPER TROUGH CENTERED OVER ALL AK...WITH JUST SOME CLOUDS AND FLURRIES EXPECTED THROUGH FRIDAY. THE TROUGH WILL LIFT OUT AND RIDGING WILL BUILD OVER THE INTERIOR SAT NIGHT INTO SUNDAY.

THIS WILL GIVE WAY TO A MORE UNSTABLE PATTERN FOR THE WEST COAST LATE IN THE WEEKEND AND EARLY NEXT WEEK AS AN 500 MB UPPER LEVEL TROUGH AND THE ASSOCIATED SFC LOW WILL LIKELY BRING ANOTHER ROUND OF SIGNIFICANT SNOW FALL FOR THE WEST COAST ZONES LATE SAT NIGHT INTO MONDAY. BY EARLY NEXT WEEK THE RIDGE WILL MOVE EAST AND THE UPPER FLOW TURNS MORE WEST SOUTHWEST, SNOW WILL LIKELY SPREAD INTO THE INTERIOR BY MONDAY.

TEMPERATURES ACROSS THE INTERIOR SHOULD MODERATE SLIGHTLY AS THE UPPER TROUGH LIFTS OUT AND RIDGING BUILDS IN, BUT AS ANOTHER TROUGH SETTLES BACK INTO THE STATE LATE NEXT WEEK, THE TEMPERATURES WILL REMAIN BELOW AVERAGE.

&&

.AFG WATCHES/WARNINGS/ADVISORIES...
SNOW ADVISORY FOR AKZ223-AKZ224-AKZ225-AKZ226.

AKZ222-110515-
MIDDLE TANANA VALLEY-
INCLUDING...FAIRBANKS...FORT WAINWRIGHT...EIELSON AFB...ESTER...
NORTH POLE...MOOSE CREEK...TWO RIVERS...FOX...CHATANIKA...CHENA
HOT SPRINGS...SOURDOUGH CAMP
602 AM ADT THU APR 10 2008

.TODAY...PERIODS OF SNOW THIS MORNING. SNOW ACCUMULATION UP TO 2 INCHES. SCATTERED SNOW SHOWERS AFTER NOON.
HIGHS 30 TO 35. WEST WINDS 5 TO 15 MPH.

.TONIGHT...MOSTLY CLOUDY WITH A CHANCE OF SNOW. LOWS 5 TO 15. WEST WINDS 5 TO 15 MPH.

.FRIDAY...MOSTLY CLOUDY. HIGHS 30 TO 35. WEST WINDS AROUND 10 MPH.

.FRIDAY NIGHT...MOSTLY CLOUDY. LOWS 5 TO 10. WEST WINDS AROUND 10 MPH.

.SATURDAY...MOSTLY CLOUDY. HIGHS AROUND 30. WEST WINDS 10 TO 15 MPH.

.SATURDAY NIGHT...MOSTLY CLOUDY. LOWS NEAR 15.

.SUNDAY...MOSTLY CLOUDY. HIGHS NEAR 35.

.SUNDAY NIGHT...MOSTLY CLOUDY. LOWS NEAR 20.

.MONDAY...MOSTLY CLOUDY WITH A CHANCE OF SNOW. HIGHS NEAR 35.

.MONDAY NIGHT...MOSTLY CLOUDY WITH A CHANCE OF SNOW. LOWS NEAR 25.

.TUESDAY...MOSTLY CLOUDY WITH A CHANCE OF SNOW. HIGHS NEAR 35.

.TUESDAY NIGHT...MOSTLY CLOUDY. A CHANCE OF SNOW. LOWS NEAR 25.

.WEDNESDAY...CLOUDY. A CHANCE OF SNOW. HIGHS NEAR 40.

AKZ202-110045-
NORTHERN ARCTIC COAST-
INCLUDING...BARROW...ALAKTAK...PITT POINT...NULAVIK
143 AM ADT THU APR 10 2008

...DENSE FOG THIS MORNING...

.TODAY...INCREASING CLOUDS WITH FLURRIES. AREAS OF DENSE FOG THIS MORNING DECREASING MID DAY. HIGHS ZERO TO 10 ABOVE. NORTHEAST WINDS AROUND 10 MPH.

.TONIGHT...MOSTLY CLOUDY. PATCHY FOG AND FLURRIES. LOWS 5 TO 10 BELOW ZERO. LIGHT WINDS.

.FRIDAY...MOSTLY CLOUDY. HIGHS ZERO TO 10 ABOVE ZERO. LIGHT WINDS.

.FRIDAY NIGHT...MOSTLY CLOUDY. LOWS 10 TO 15 BELOW. SOUTHEAST WINDS AROUND 10 MPH.

.SATURDAY...MOSTLY CLOUDY. HIGHS AROUND 5 ABOVE. SOUTHEAST WINDS AROUND 10 MPH.

.SATURDAY NIGHT...MOSTLY CLOUDY. LOWS NEAR 15 BELOW.

.SUNDAY...CLOUDY. HIGHS NEAR ZERO.

.SUNDAY NIGHT...CLOUDY. LOWS NEAR 5 BELOW.

.MONDAY...MOSTLY CLOUDY. HIGHS NEAR 5 ABOVE.

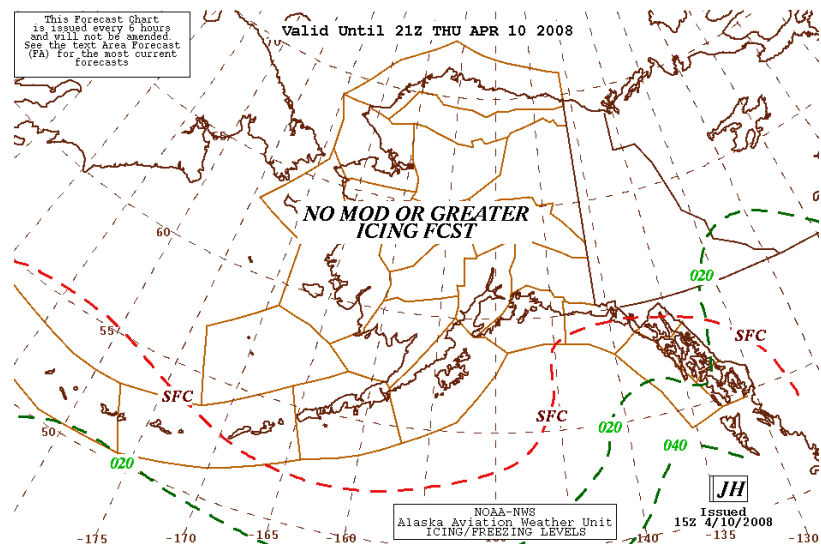
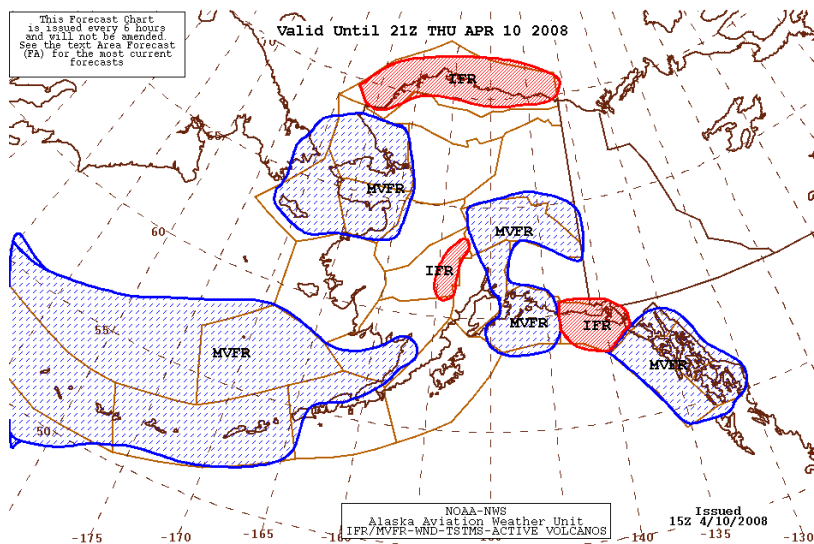
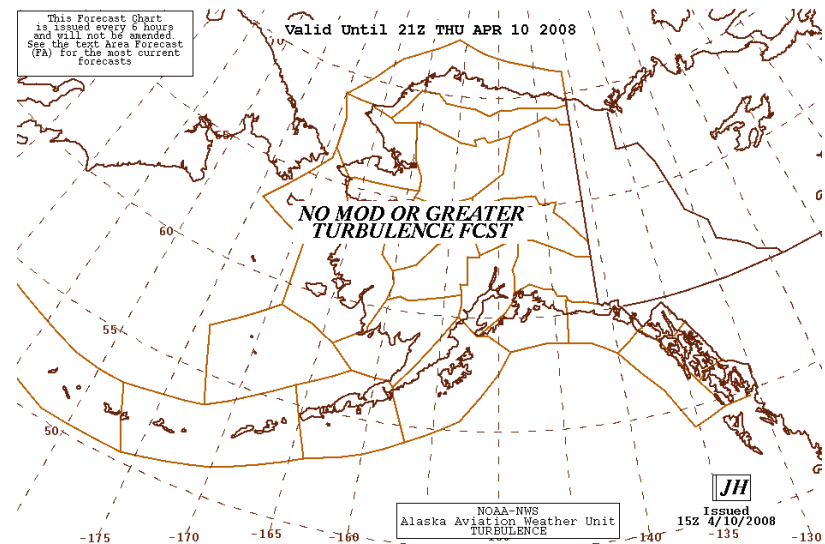
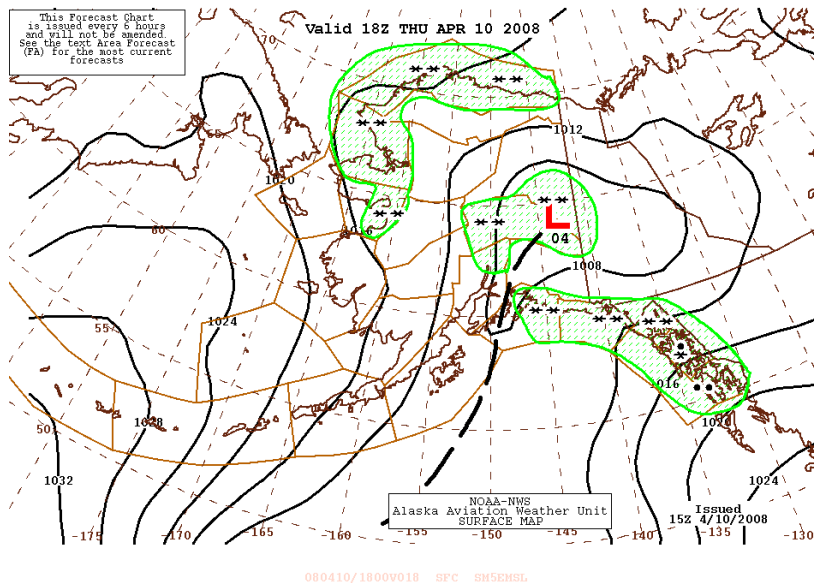
.MONDAY NIGHT...MOSTLY CLOUDY. A CHANCE OF SNOW. LOWS NEAR ZERO.

.TUESDAY...CLOUDY. HIGHS NEAR 5 ABOVE.

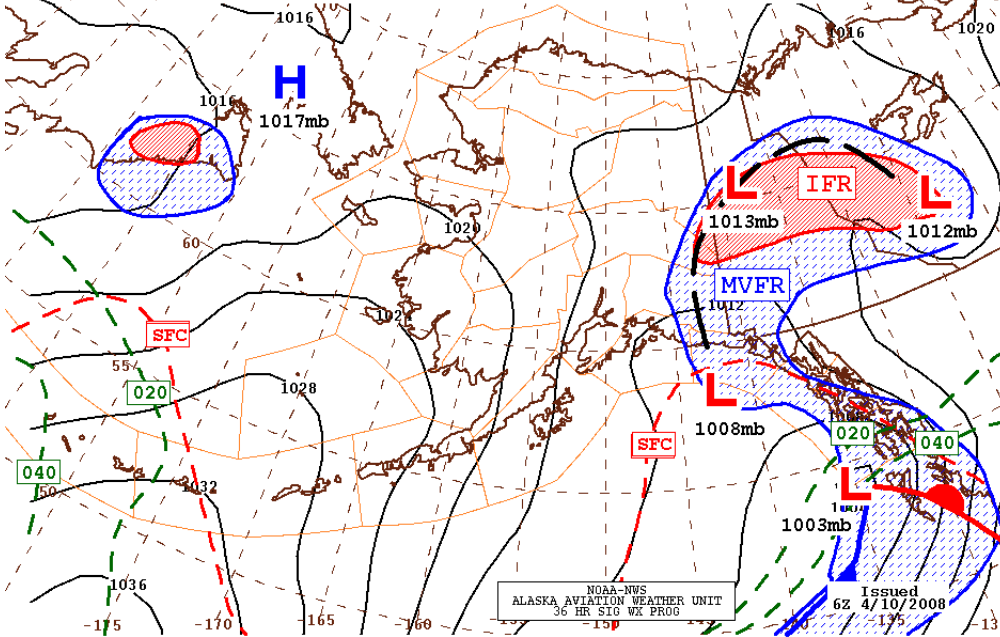
.TUESDAY NIGHT...MOSTLY CLOUDY. A CHANCE OF SNOW. LOWS NEAR 5 BELOW.

.WEDNESDAY...MOSTLY CLOUDY. HIGHS NEAR 5 ABOVE.

Aviation forecast...today (through noon)



36HR SIGNIFICANT WEATHER PROG Valid 12Z FRI APR 11 2008

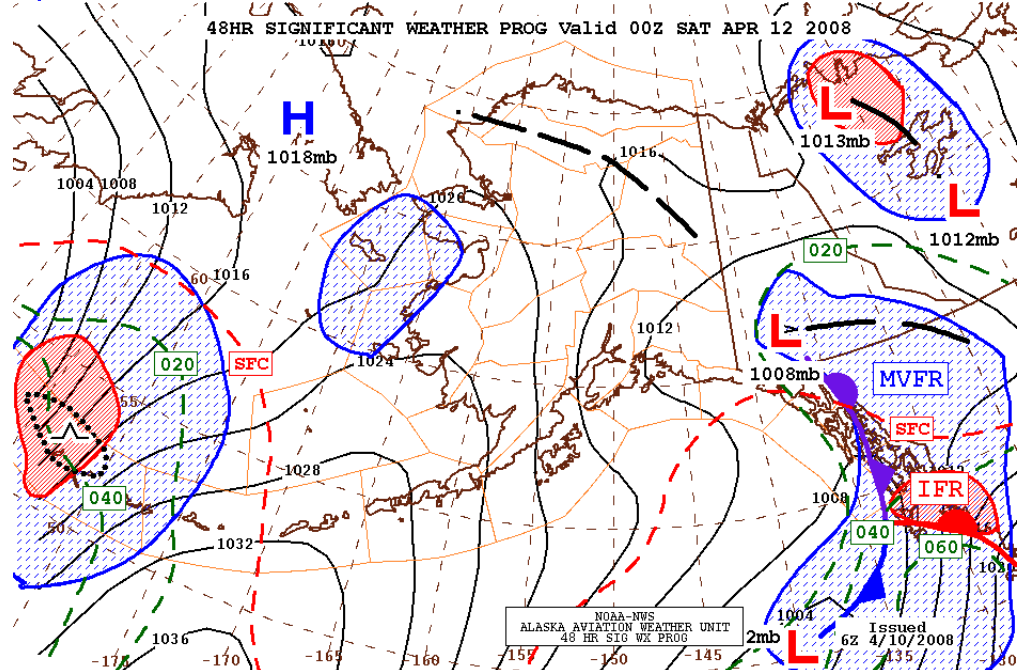


080411/1200V036 SFC SH5ENSL

Valid 12Z Fri.
(3AM)

Valid 00Z Sat.
(3PM Friday)

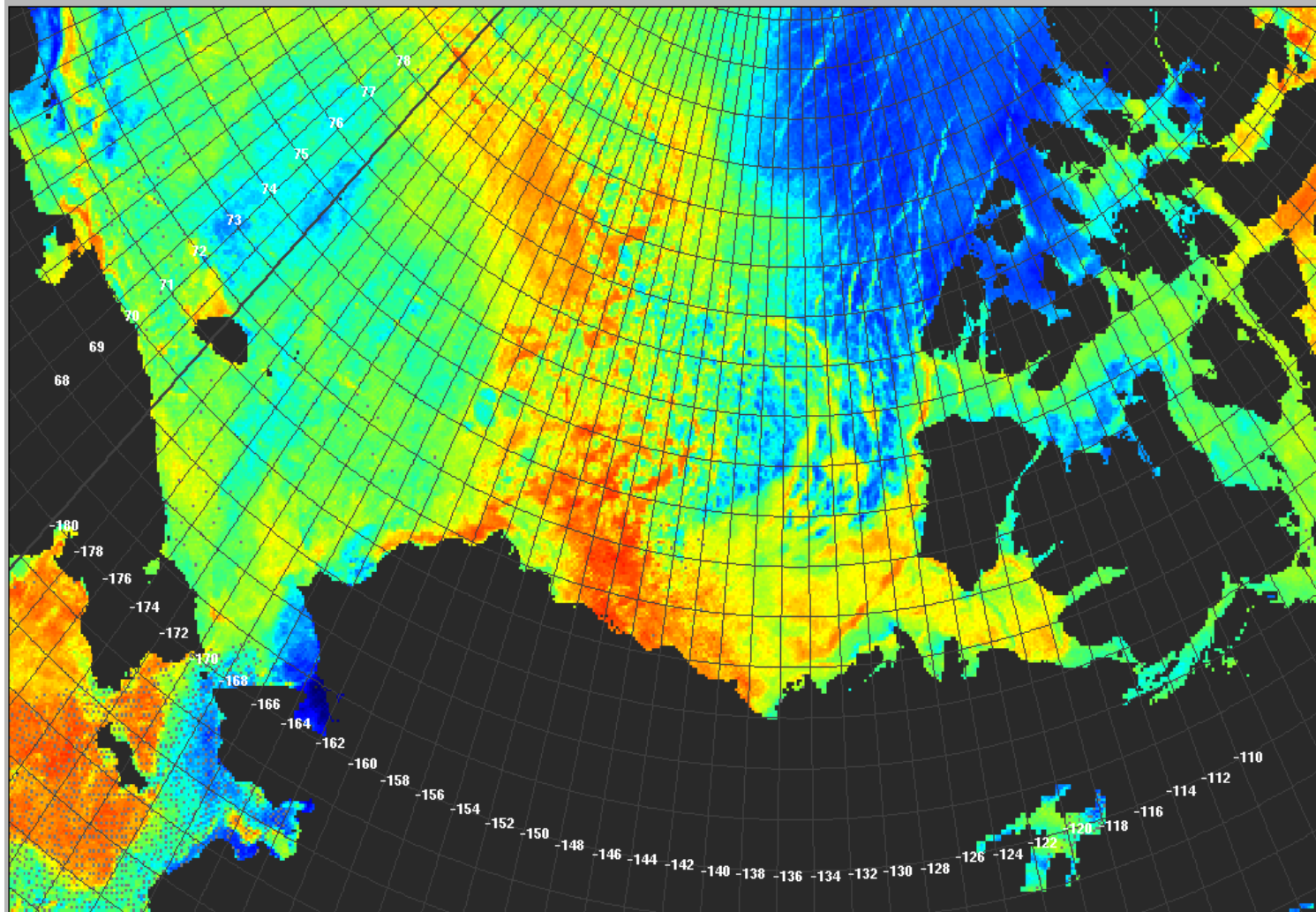
48HR SIGNIFICANT WEATHER PROG Valid 00Z SAT APR 12 2008



080412/0000V048 SFC SH5ENSL

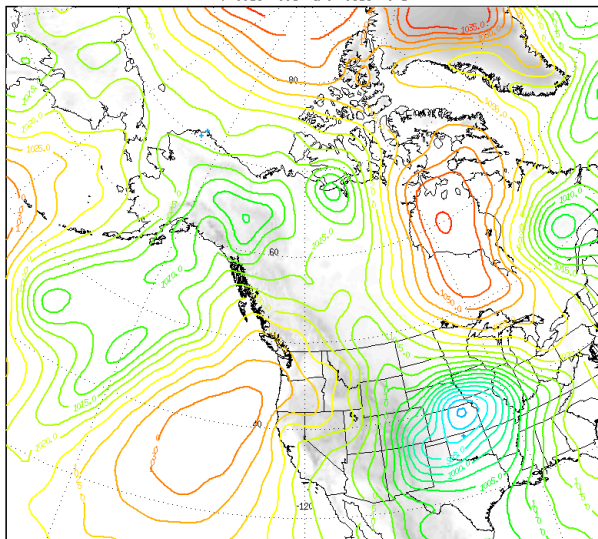
Multiyear ice: blue

AMSR-E/Aqua Daily L3 6.25 km 89GHz horizontal brightness temperature: 20080407

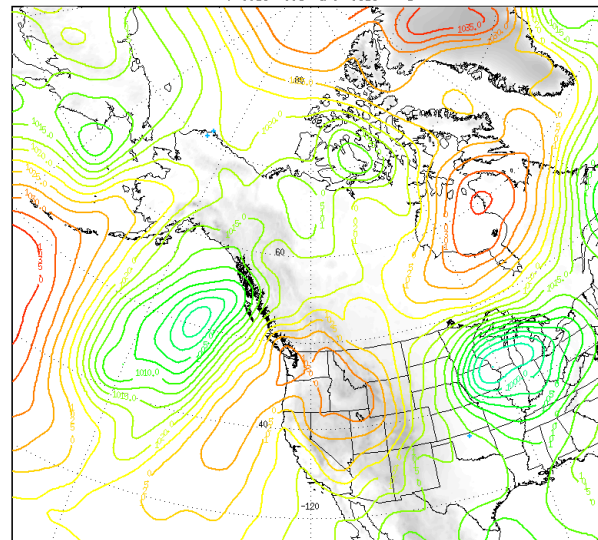


160 180 200 220 240 260 280
Brightness temperature

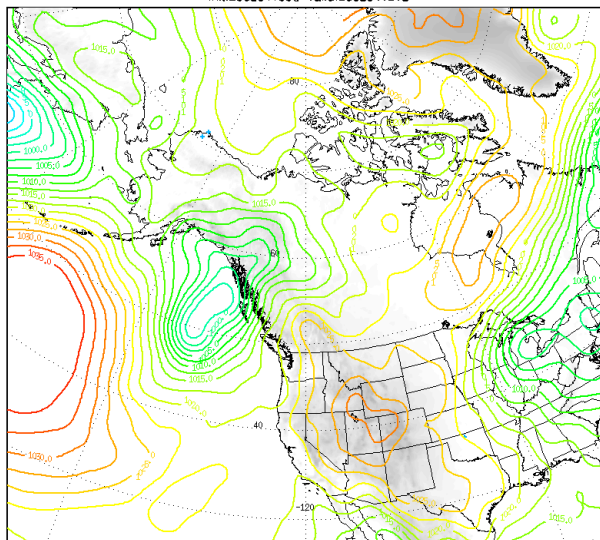
NCEP GFS Sea Level Pressure
Init:2008041006 Valid:2008041018



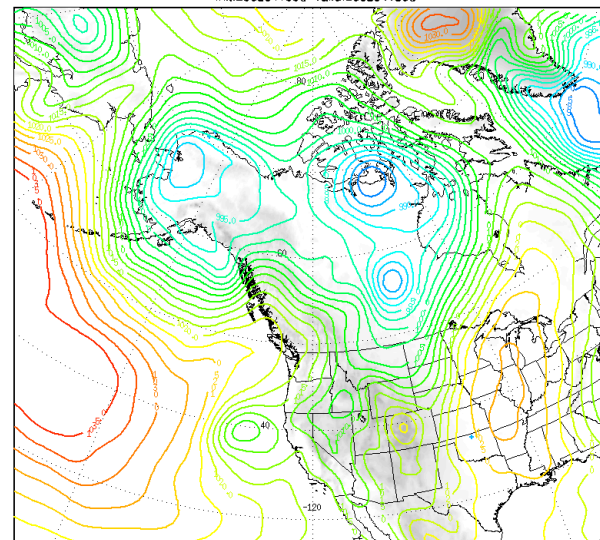
NCEP GFS Sea Level Pressure
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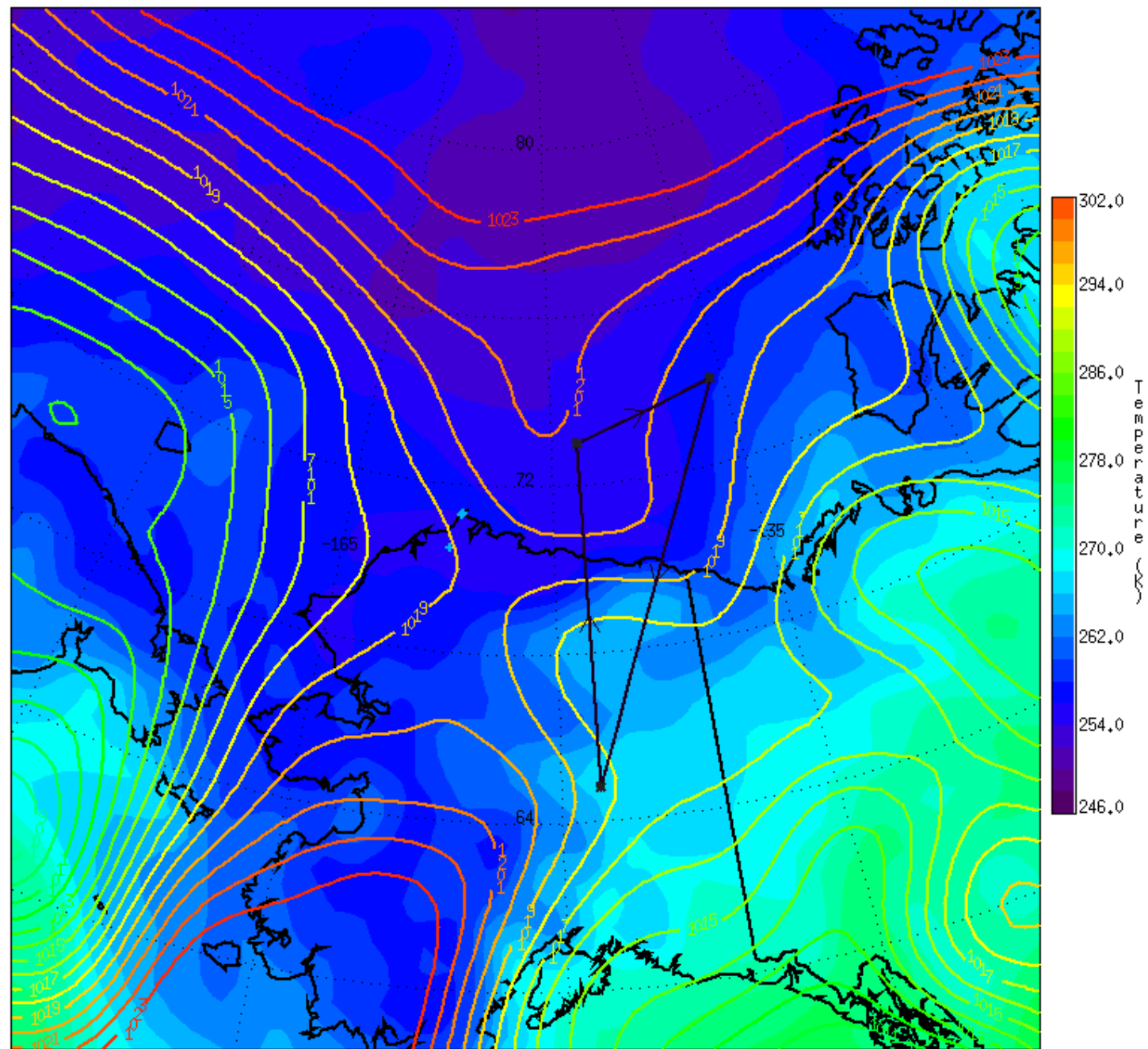
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Init:2008041006 Valid:2008041218

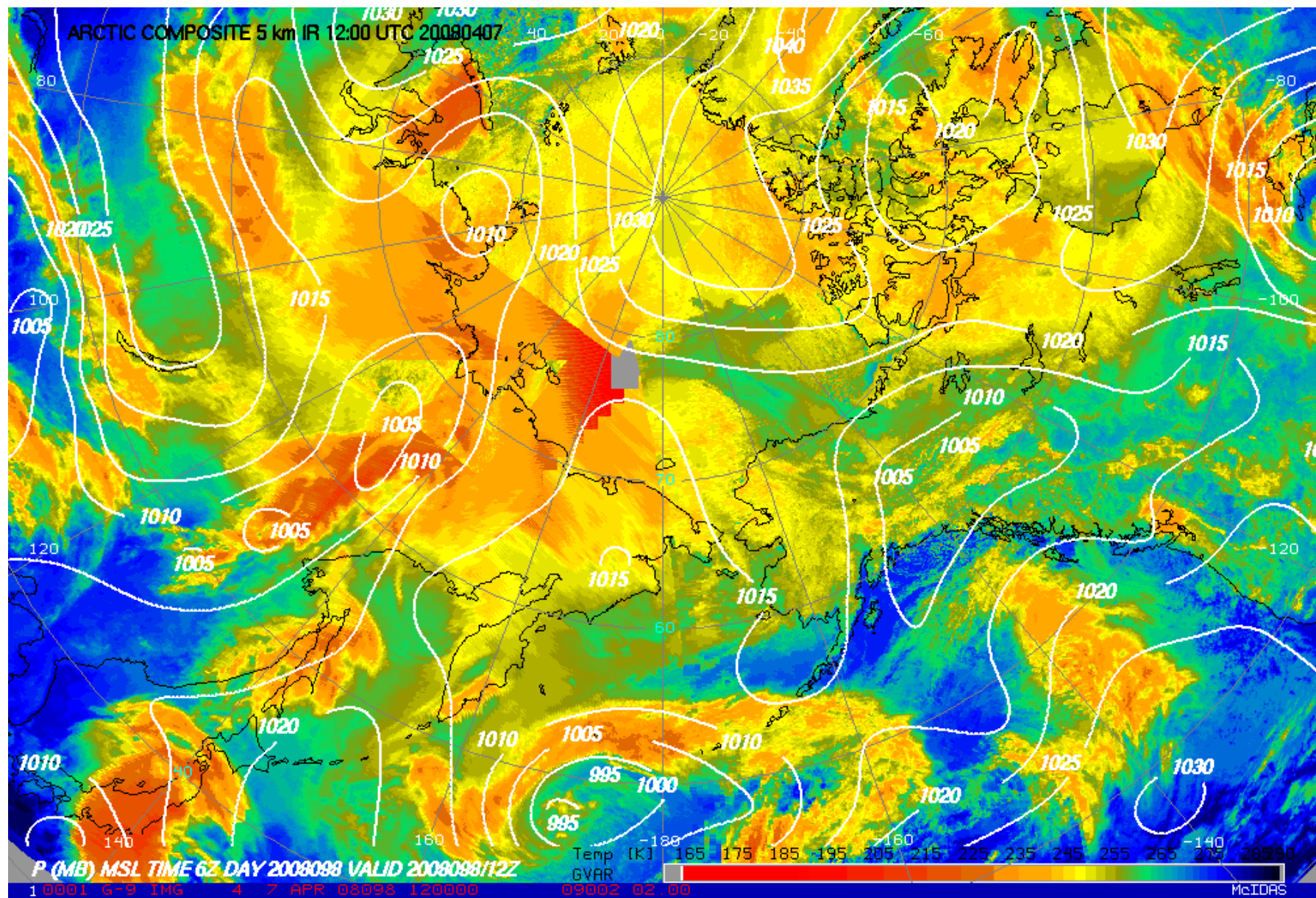


NCEP GFS Sea Level Pressure
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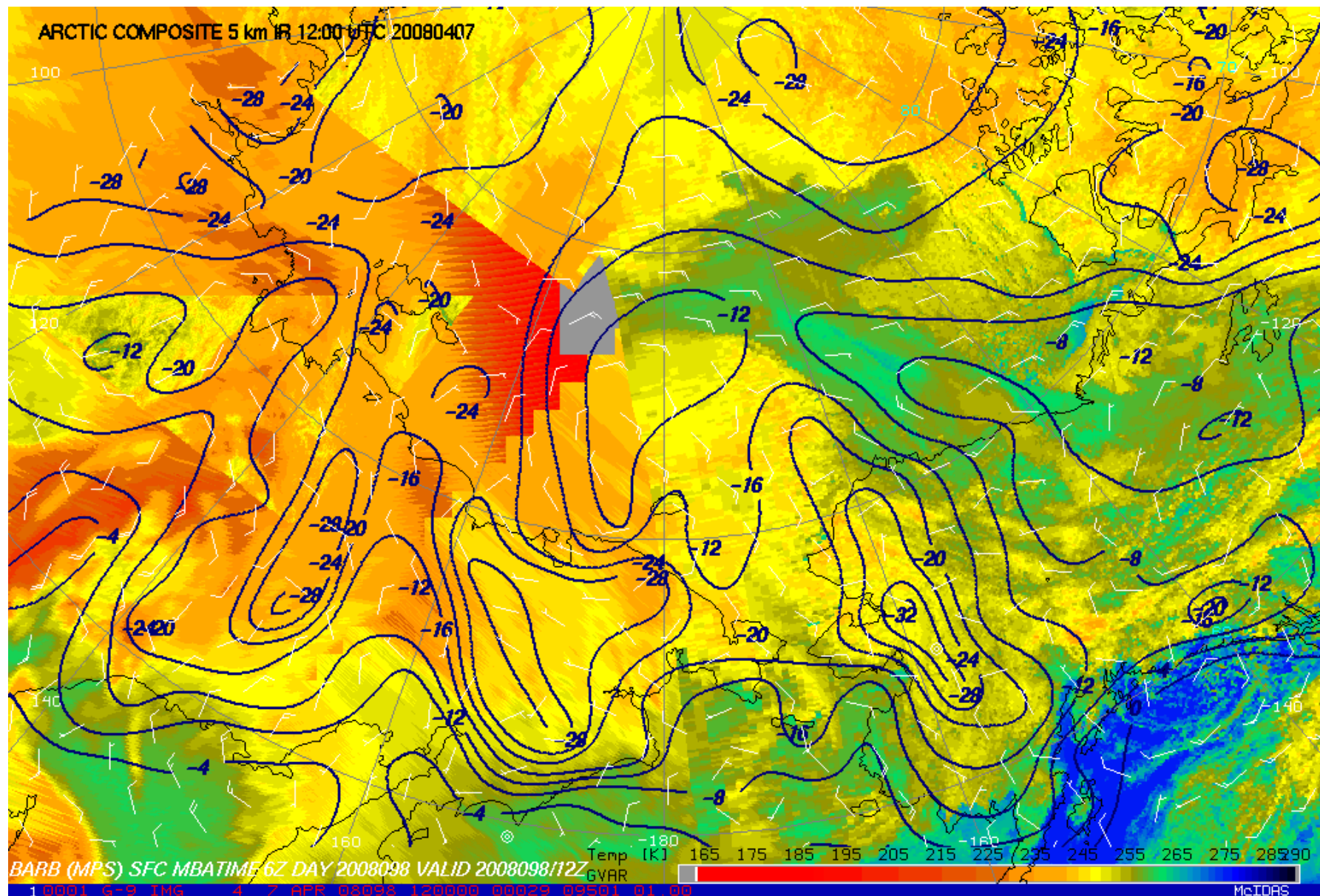


NCEP GFS Sea Level Pressure
Init:2008041006 Valid:2008041118





ARCTIC COMPOSITE 5 km IR 12:00 UTC 20080407



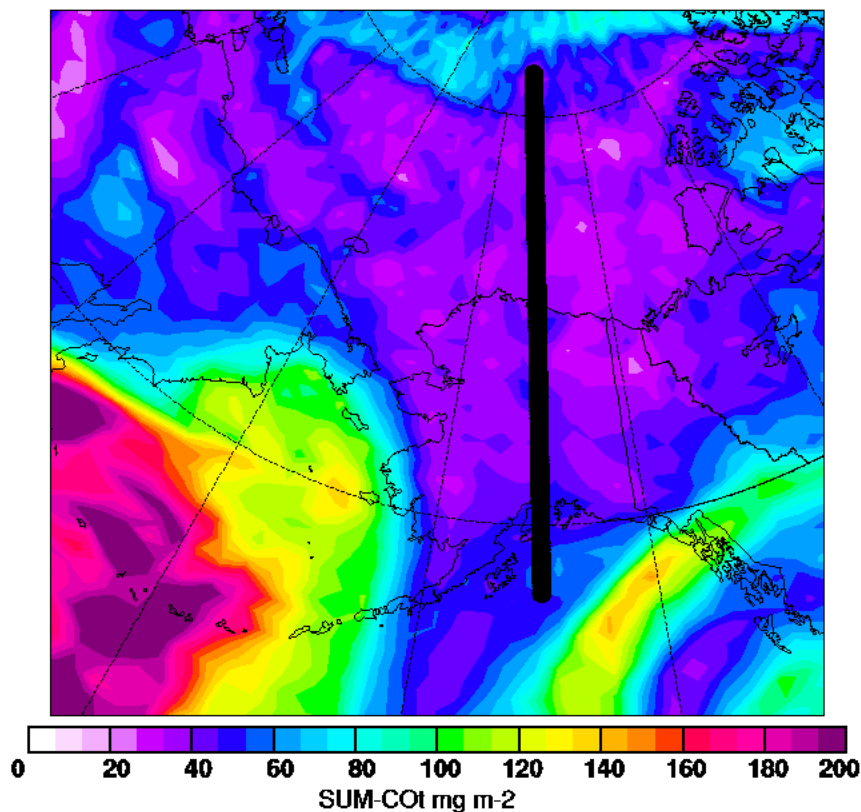
Friday, Saturday: total CO

Total column of species SUM-CO for age class 0 - 20.00 DAYS

Latest analysis time 20080410. 60000 Actual time 20080411.180000

Mean value 0.942E+02 Maximum value 0.600E+03 Minimum value 0.182E+

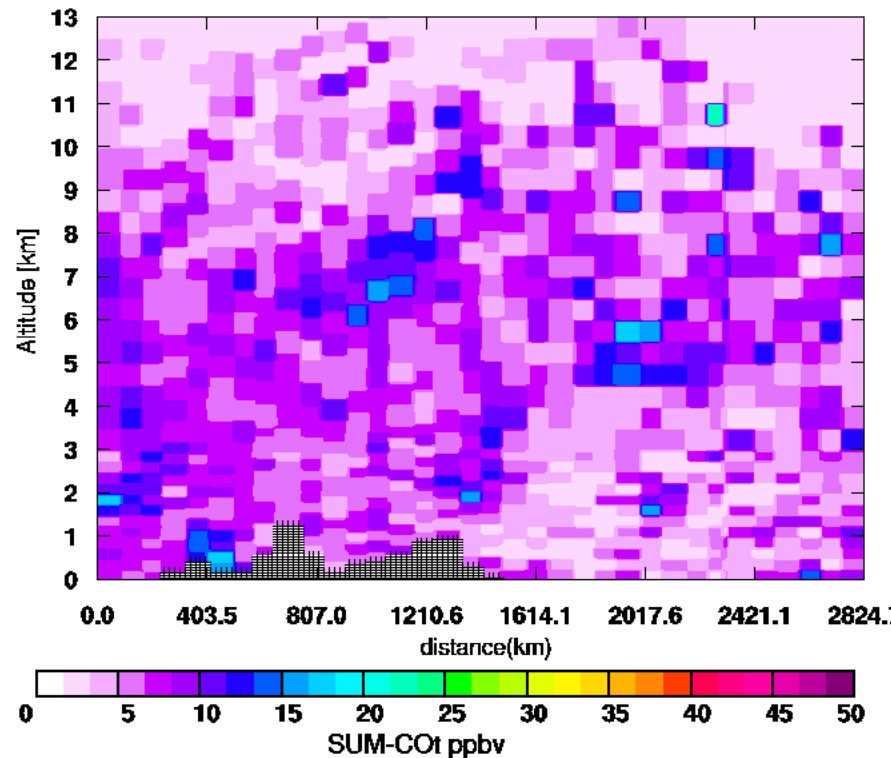
Distance of grid lines 20.0 deg



CROSS SECTION FROM 57 TO 82 LATITUDE AND -150 TO -153 LONGITUDE

NA-CO1 MIXING RATIO FOR AGE CLASS 0 - 20.00 DAYS

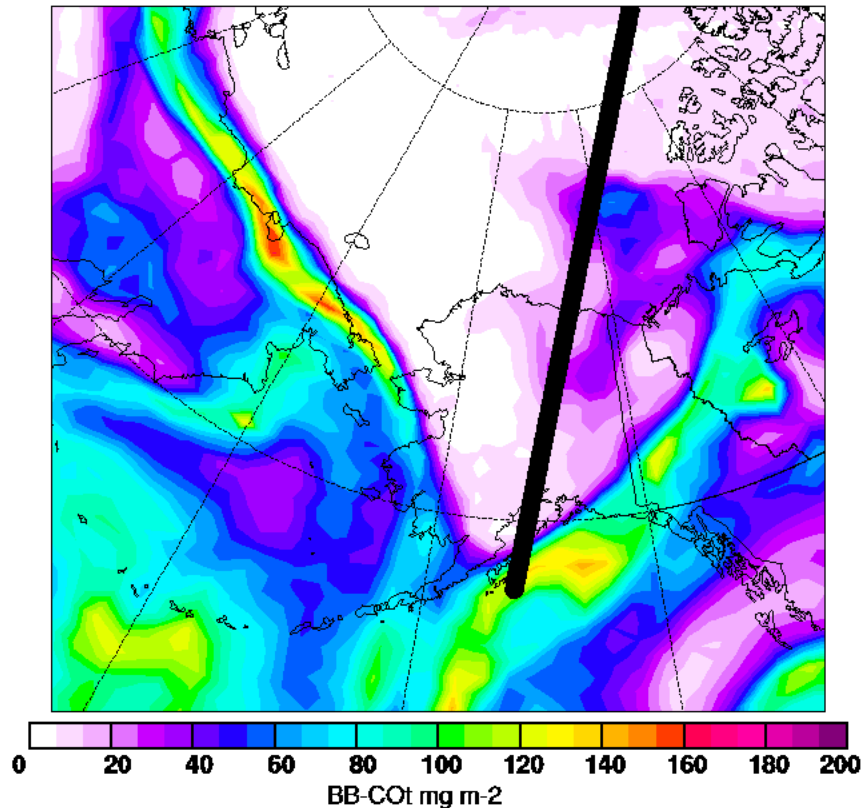
LATEST ANALYSIS 20080410 60000 UTC ACTUAL TIME 20080411 18



Friday Saturday: biomass burning

Total column of species BB-COt for age class 0 - 20.00 DAYS

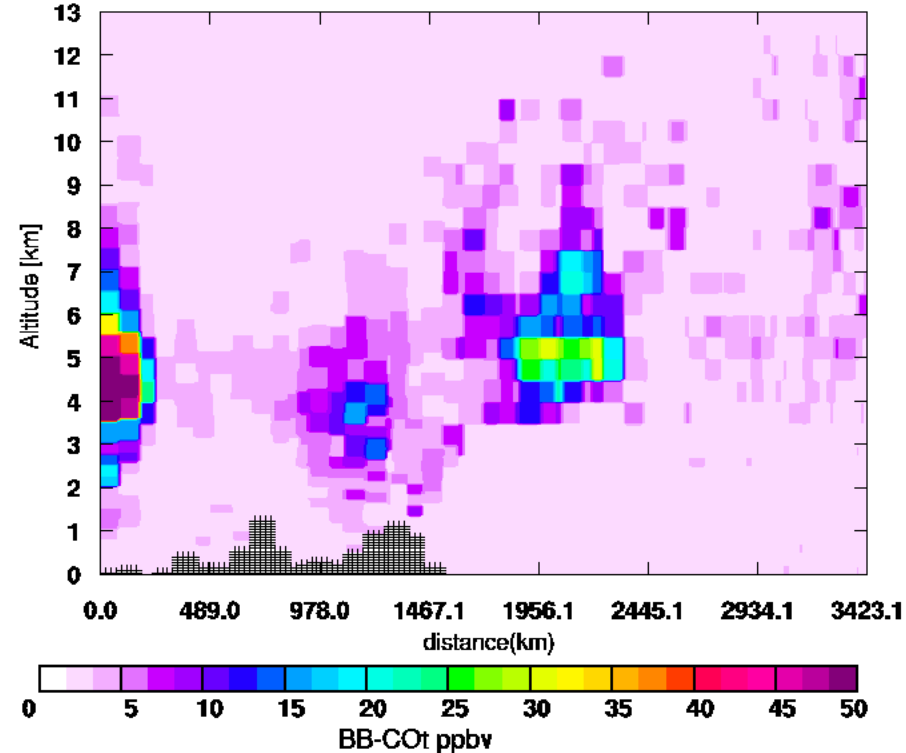
Latest analysis time 20080410. 60000 Actual time 20080411.180000
Mean value $0.425\text{E}+02$ Maximum value $0.978\text{E}+03$ Minimum value $0.280\text{E}+$
Distance of grid lines 20.0 deg



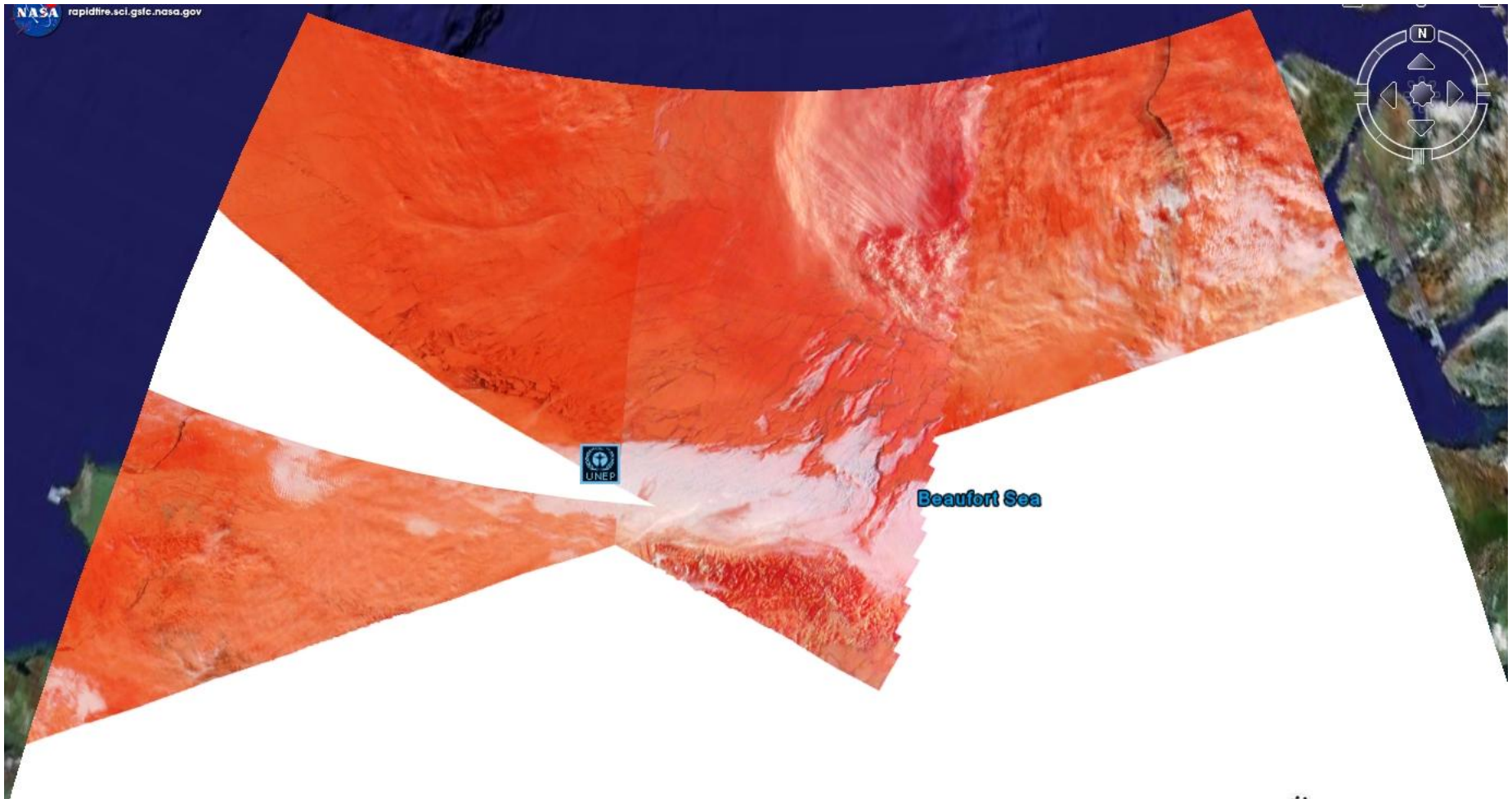
CROSS SECTION FROM 57 TO 84 LATITUDE AND -152 TO -92 LONGITUDE

BB-COt MIXING RATIO FOR AGE CLASS 0 - 20.00 DAYS

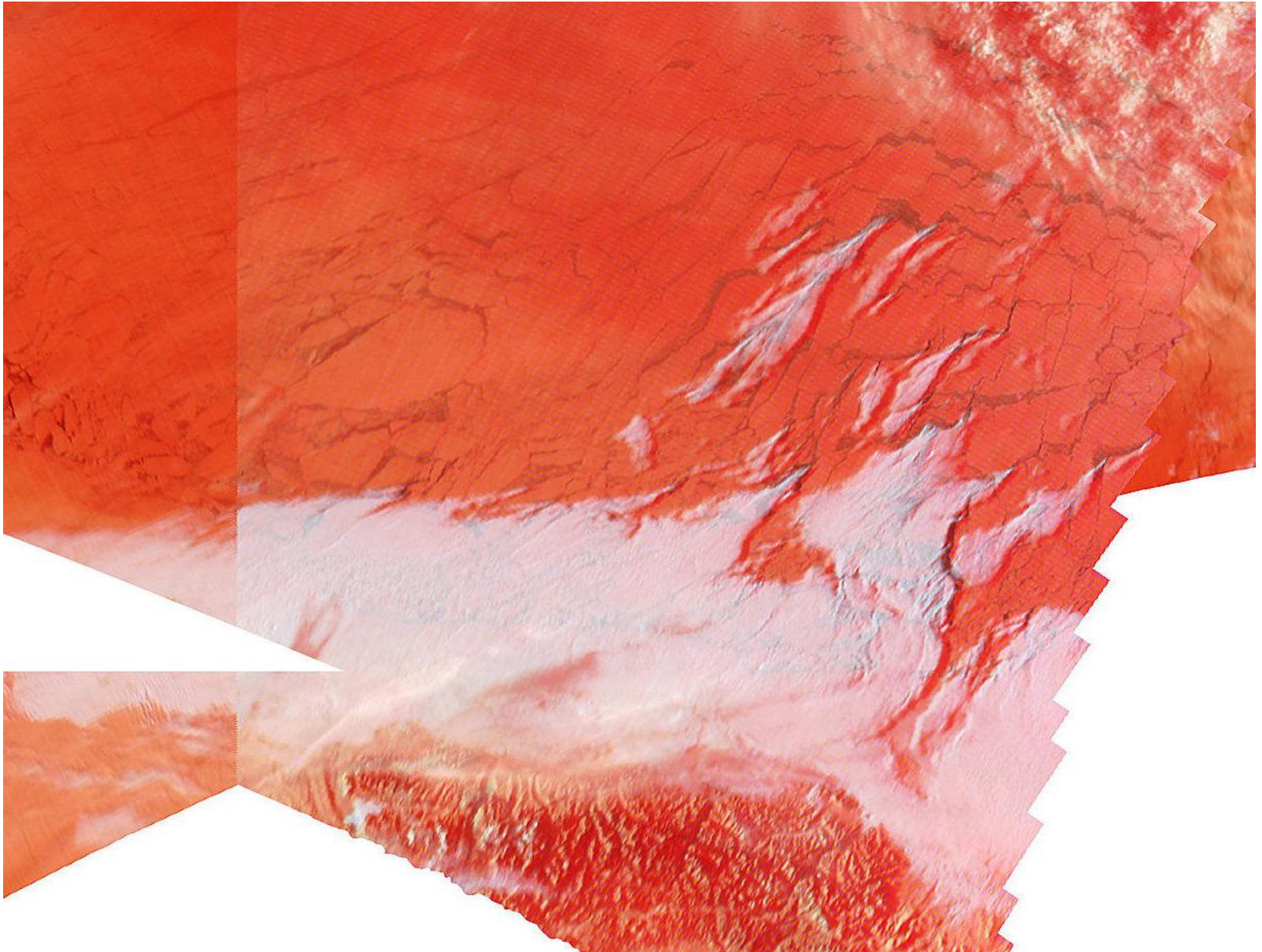
LATEST ANALYSIS 20080410 60000 UTC ACTUAL TIME 20080411 18



This morning, 00Z:
clouds from leads



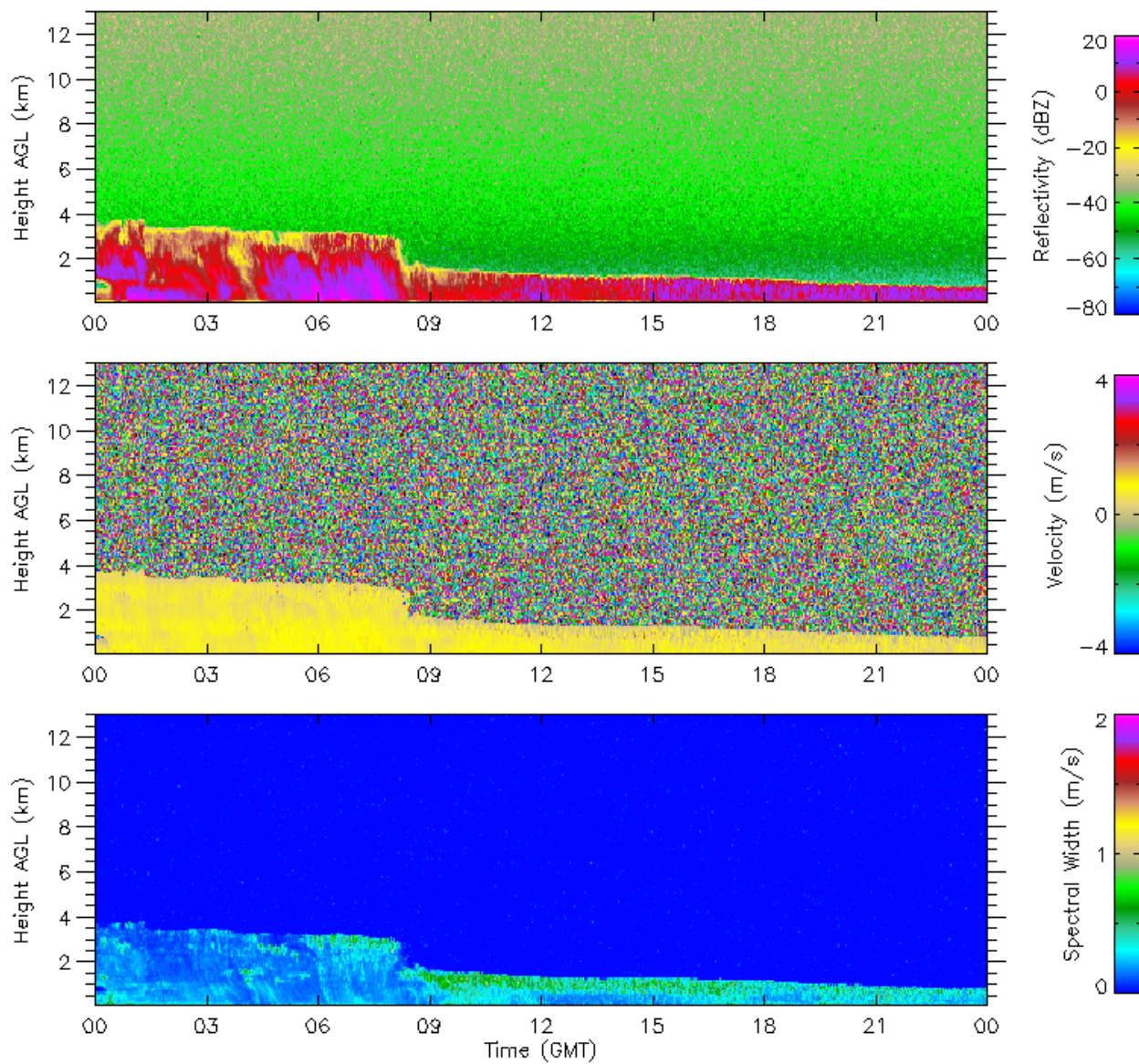
Extreme Close-up!



Barrow MPL

20080408

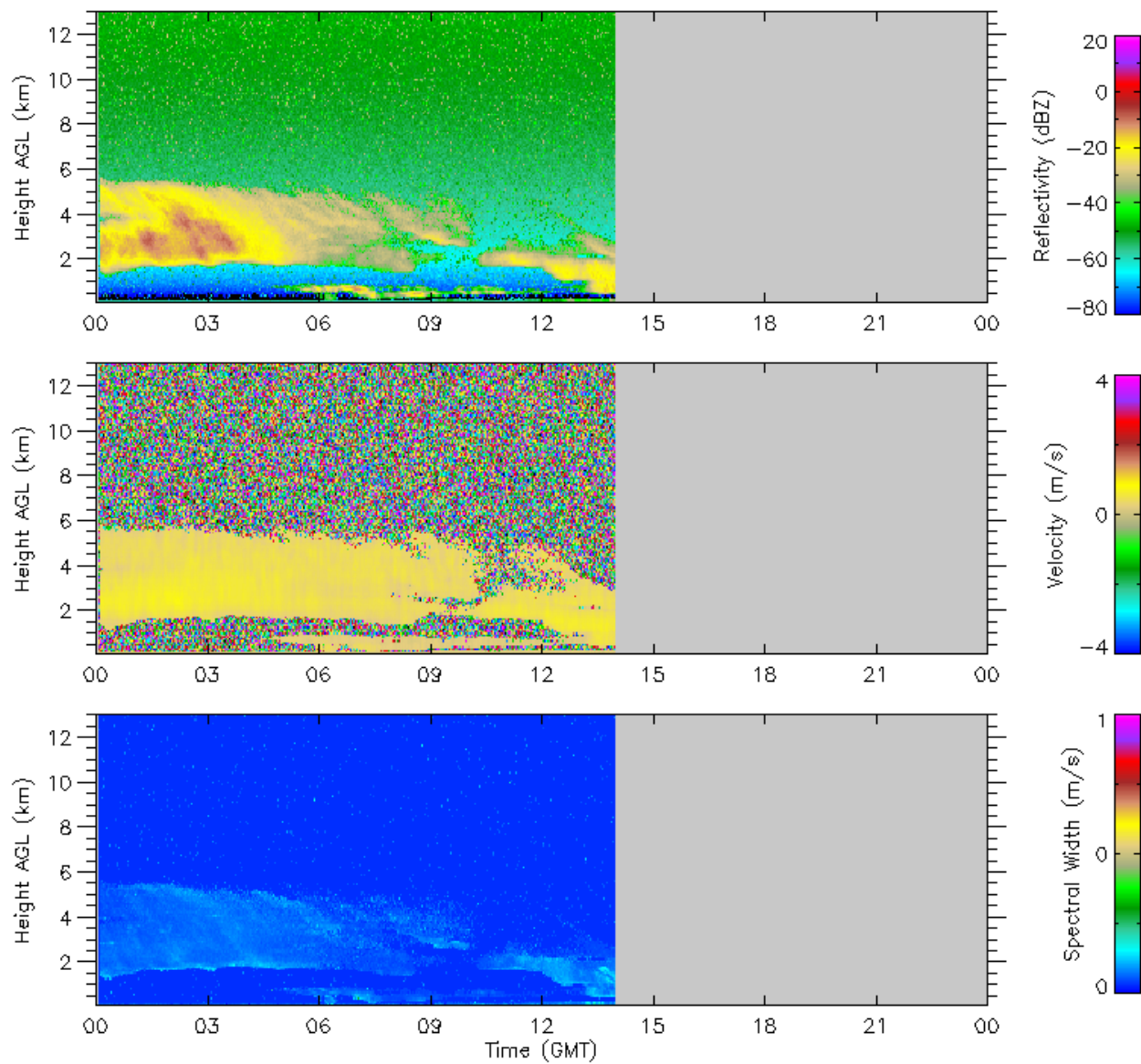
nsammcrmomC1.b1, General, Mode 3



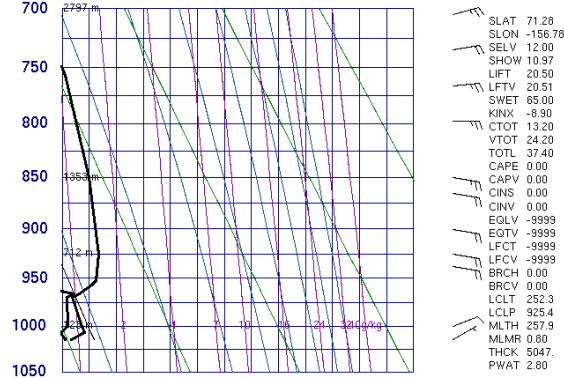
Barrow MPL

20080410

nsammcrmomC1.b1, General, Mode 3

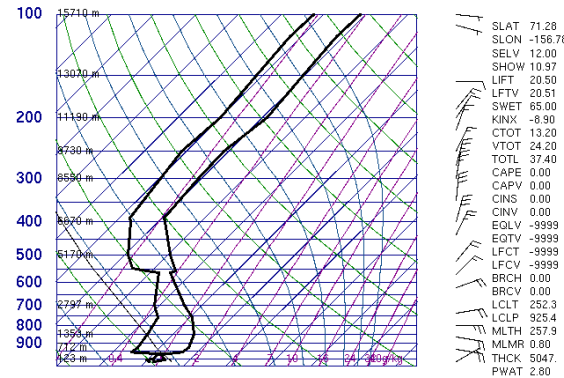


70026 PABR Barrow



12Z 09 Apr 2008 University of Wyoming

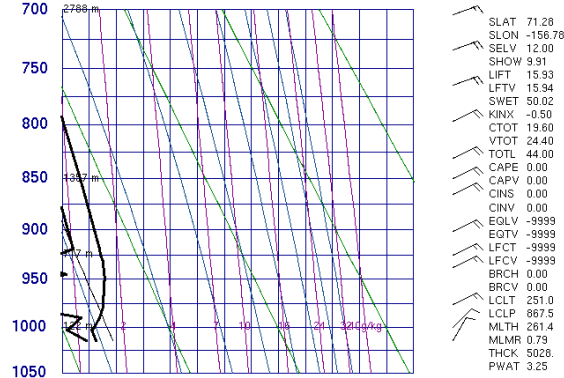
70026 PABR Barrow



12Z 09 Apr 2008 University of Wyoming

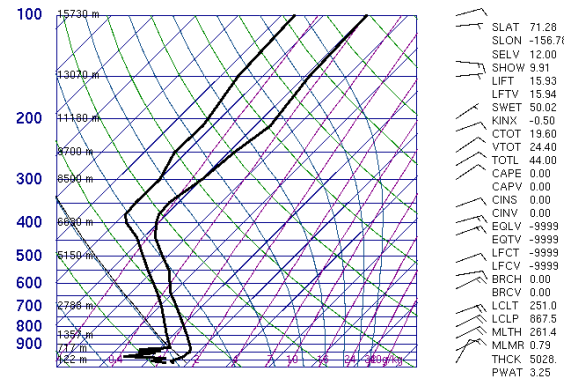
BL/Low cloud heights Barrow

70026 PABR Barrow



00Z 10 Apr 2008 University of Wyoming

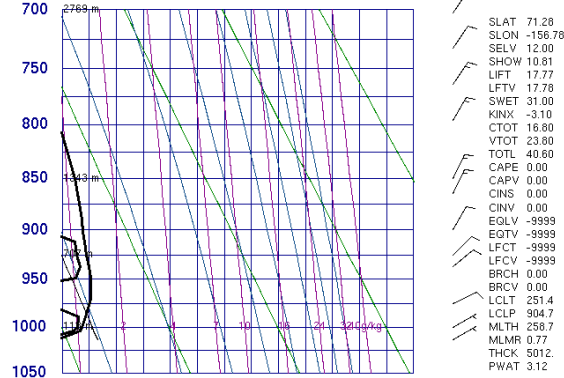
70026 PABR Barrow



00Z 10 Apr 2008 University of Wyoming

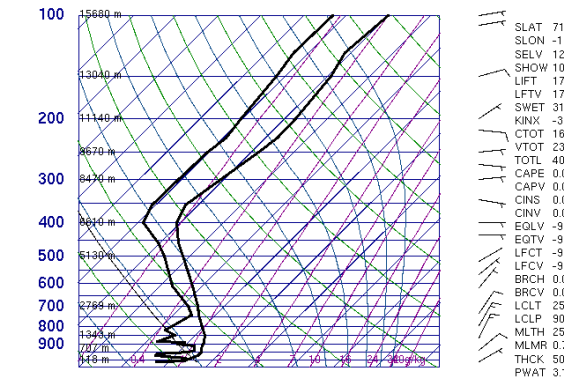
00Z 05 Apr	975hPa, 800-700hPa
12Z 05 Apr	975hPa, 700hPa
00Z 06 Apr	950hPa, 650hPa
12Z 06 Apr	880hPa, 700hPa
00Z 07 Apr	780hPa, 750hPa, 550hPa
12Z 07 Apr	950hPa, 800-700hPa
00Z 08 Apr	950hPa, 850hPa
12Z 08 Apr	940hPa, 850hPa
00Z 09 Apr	910hPa
12Z 09 Apr	960hPa
00Z 10 Apr	930hPa
12Z 10 Apr	970hPa, clouds at 930hPa

70026 PABR Barrow



12Z 10 Apr 2008 University of Wyoming

70026 PABR Barrow

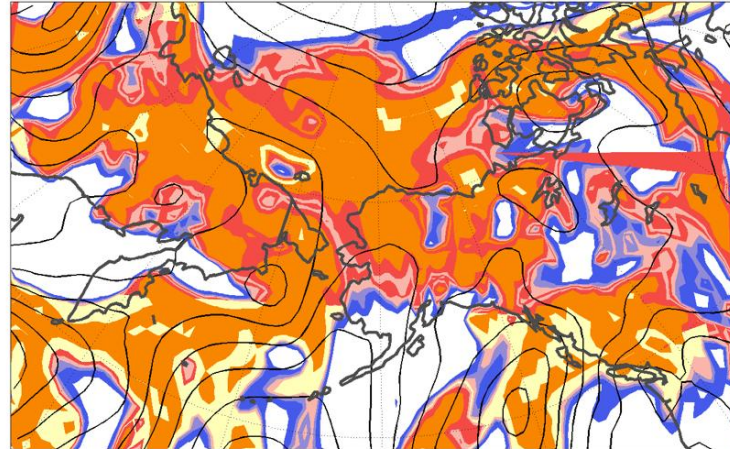


12Z 10 Apr 2008 University of Wyoming

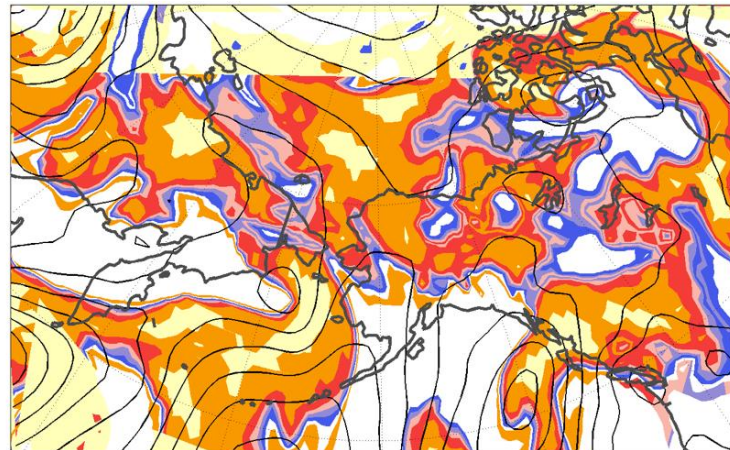
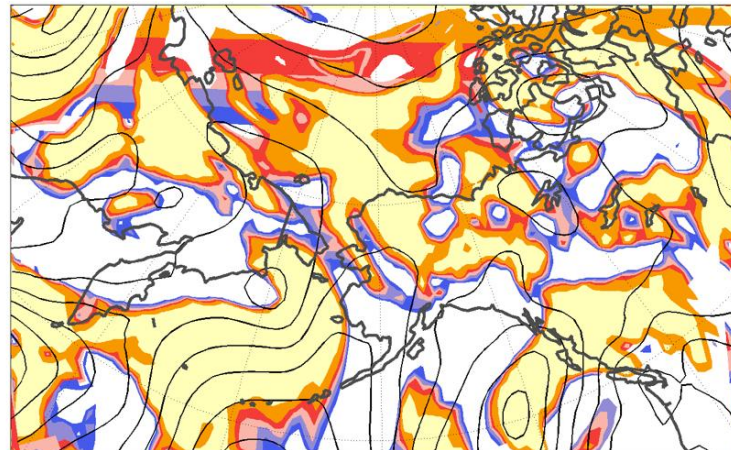
18Z 20080411



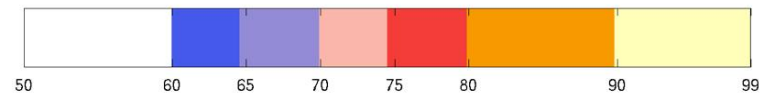
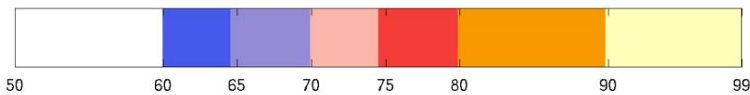
21Z 20080411



750hPa



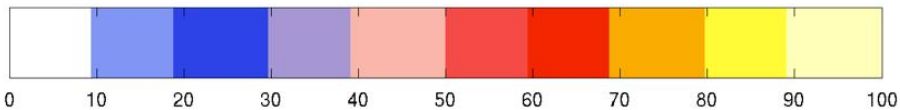
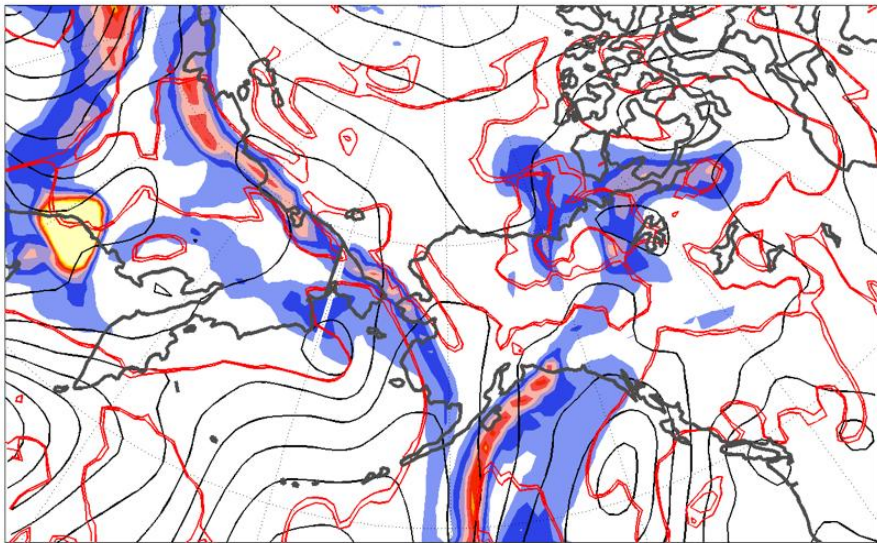
600hPa



RH and SLP from GFS 00Z 20080410

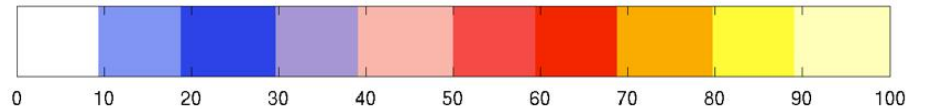
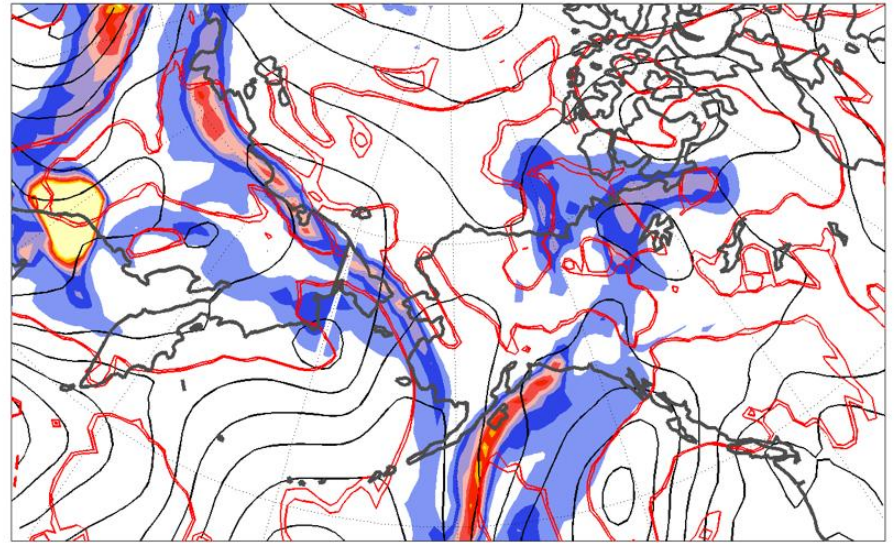
18Z 20080411

BB-CO on 21 UTC 2008-04-11 at level 4000-5000 (7)



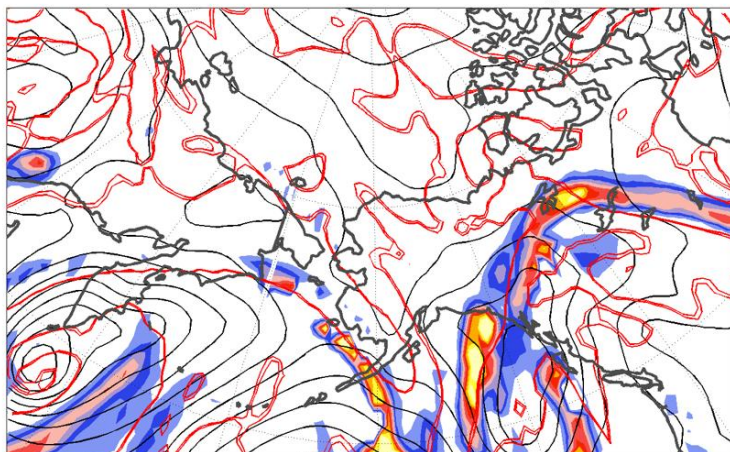
21Z 20080411

BB-CO on 18 UTC 2008-04-11 at level 4000-5000 (7)

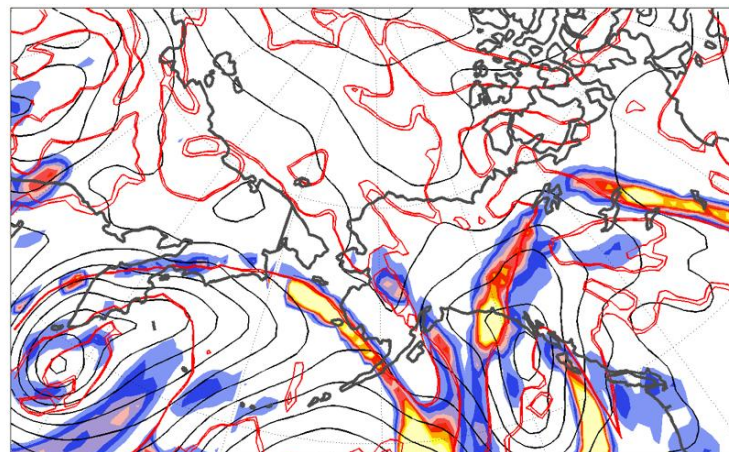


biomass plume at 4000-5000m
SLP, RH, from GFS 00Z 20080410

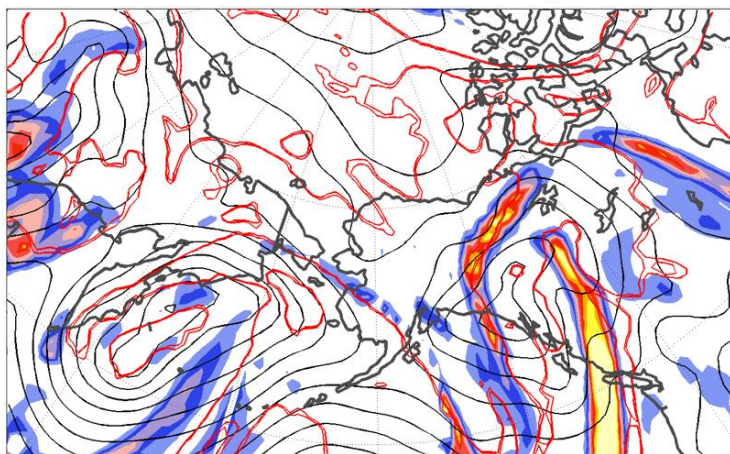
AS-SO4 on 18 UTC 2008-04-12 at level 5000-6000 (8)



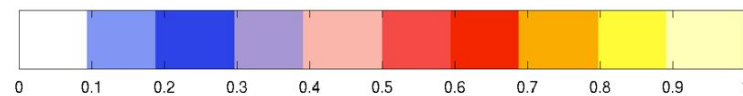
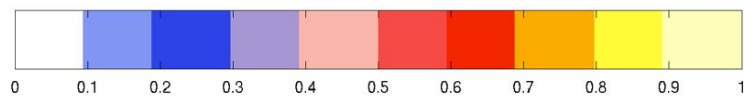
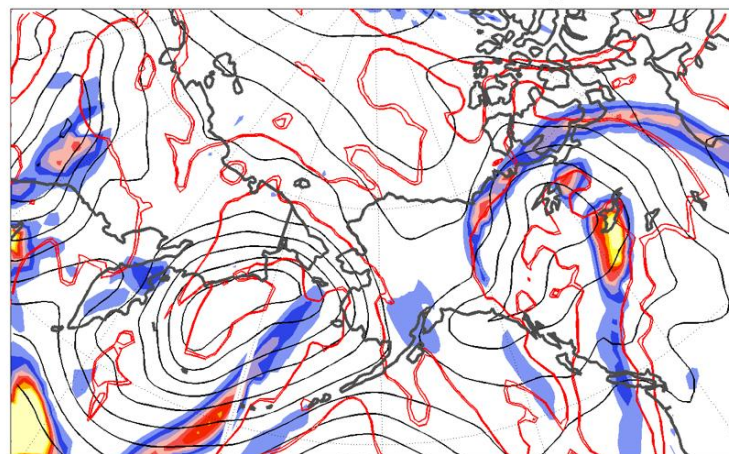
AS-SO4 on 21 UTC 2008-04-12 at level 4000-5000 (7)



AS-SO4 on 09 UTC 2008-04-13 at level 4000-5000 (7)



AS-SO4 on 18 UTC 2008-04-13 at level 5000-6000 (8)



Asian SO4
SLP, RH, from GFS 00Z 20080410

RAQMS Fairbanks Local FX Discussion:

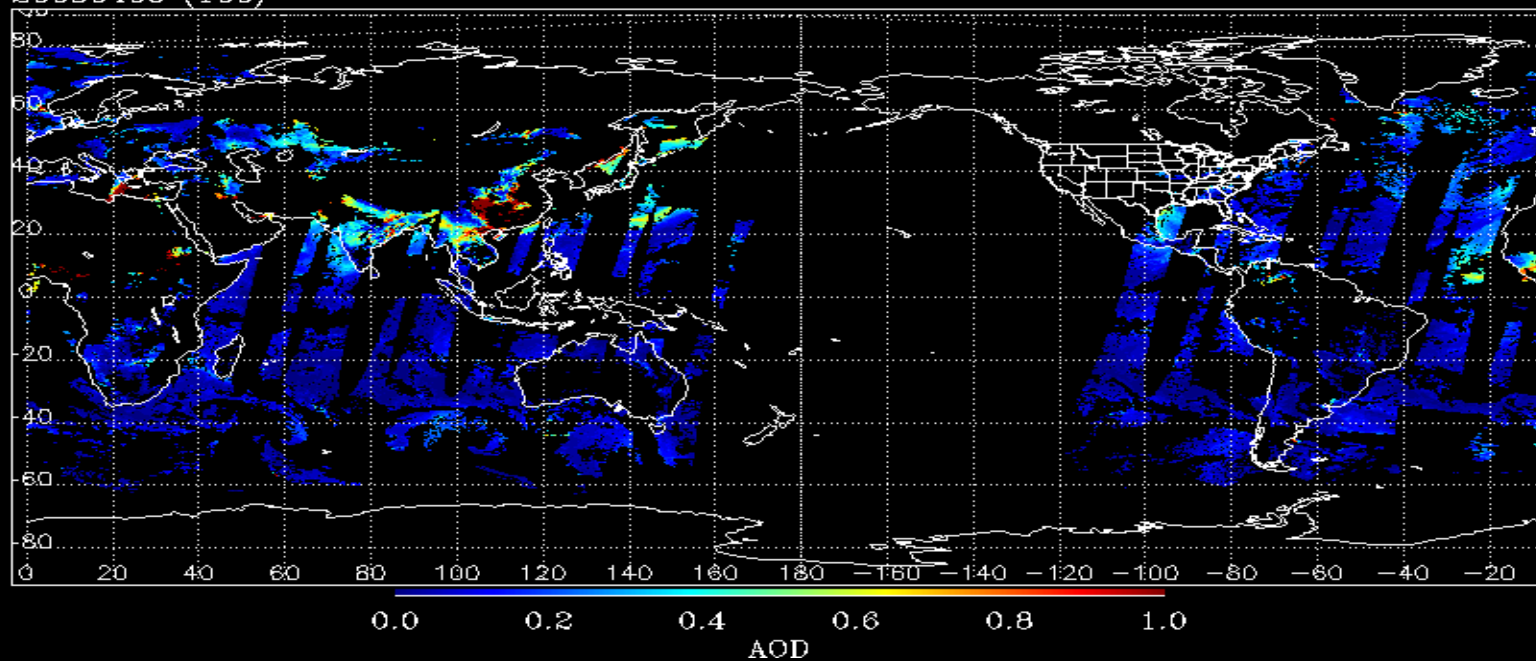
**00Z 04/12/2008
(60hr)**

**00Z 04/13/2008
(84hr)**

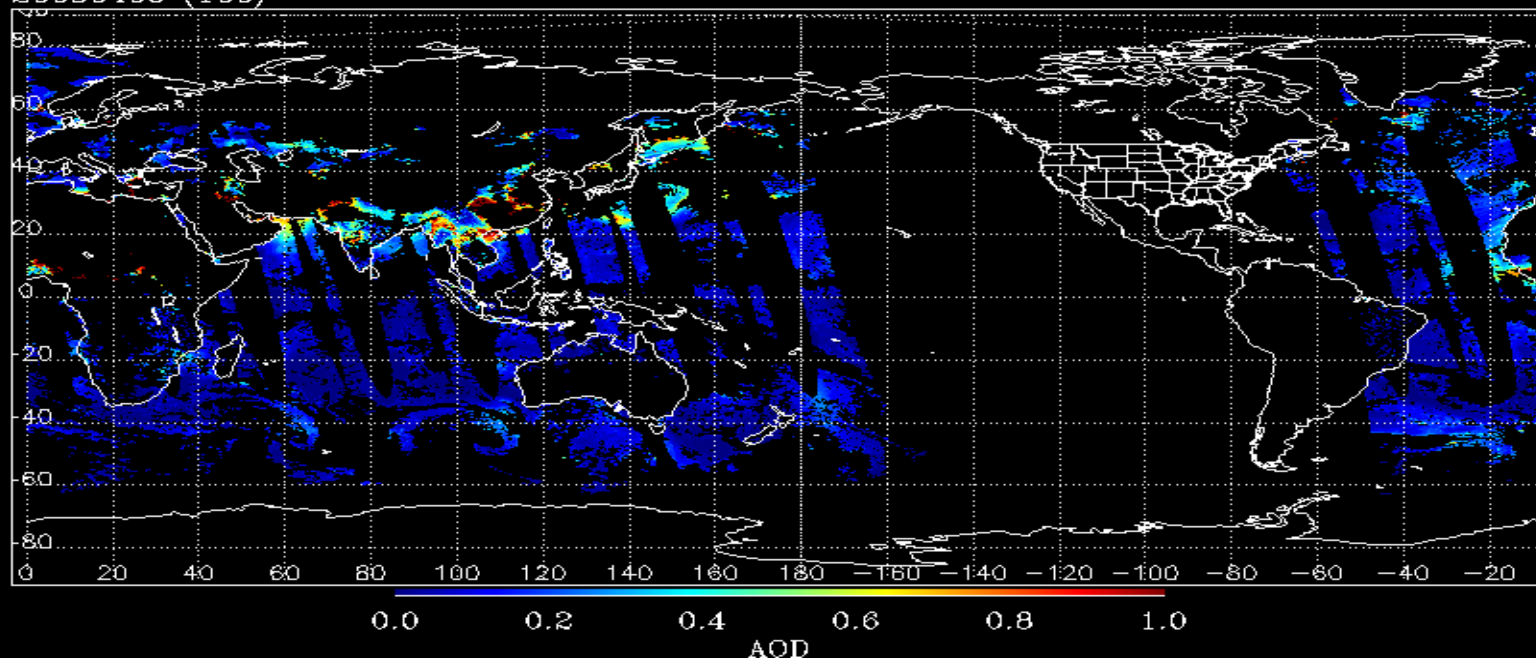
**00Z 04/14/2008
(108hr)**

initialized 12Z 04/09/2008

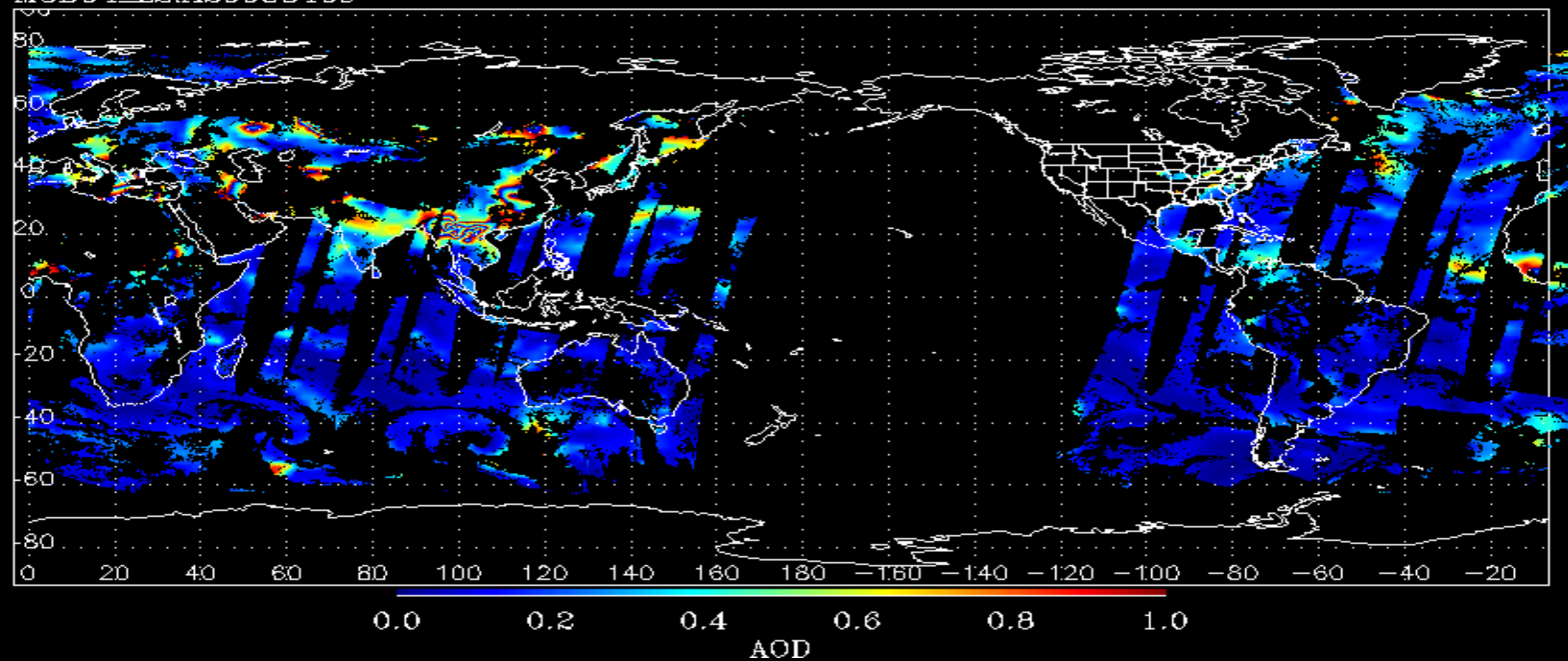
MODIS (Terra) AOD
20080409 (100)



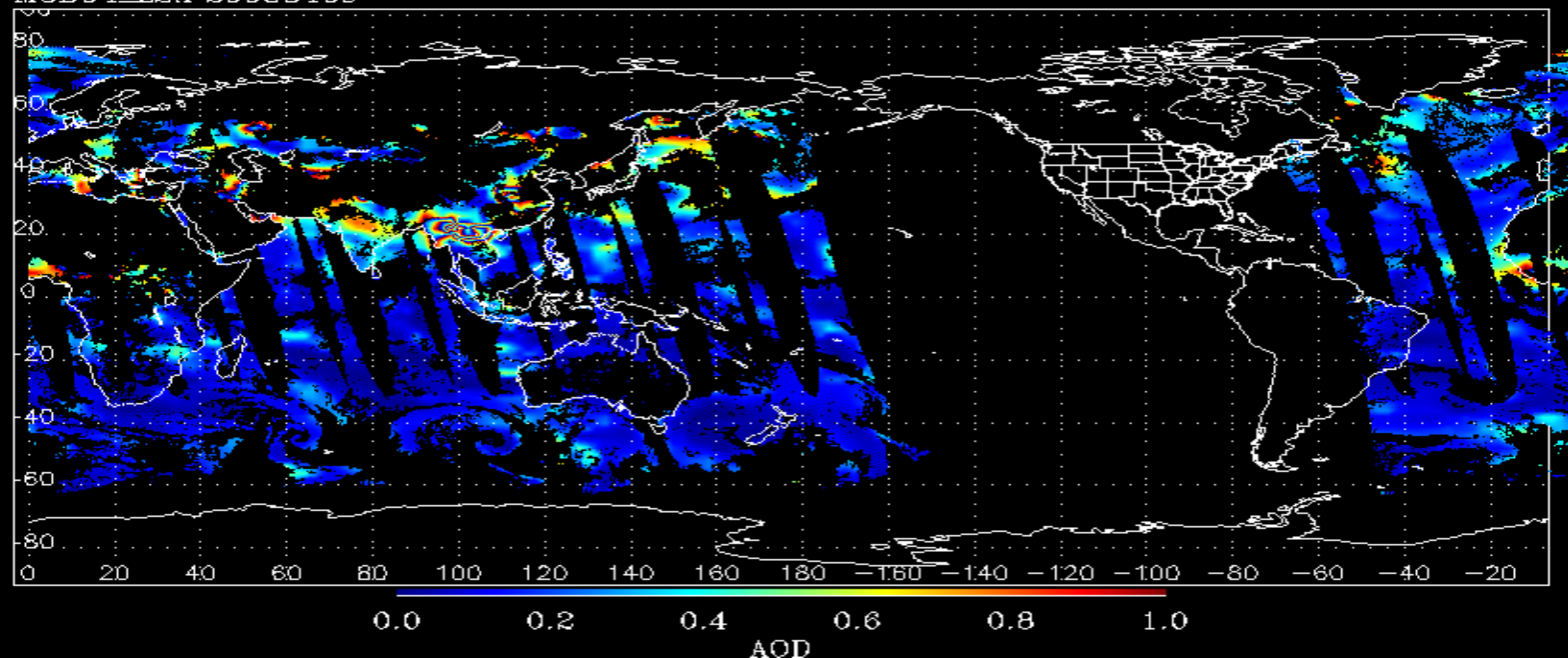
MODIS (Aqua) AOD
20080409 (100)



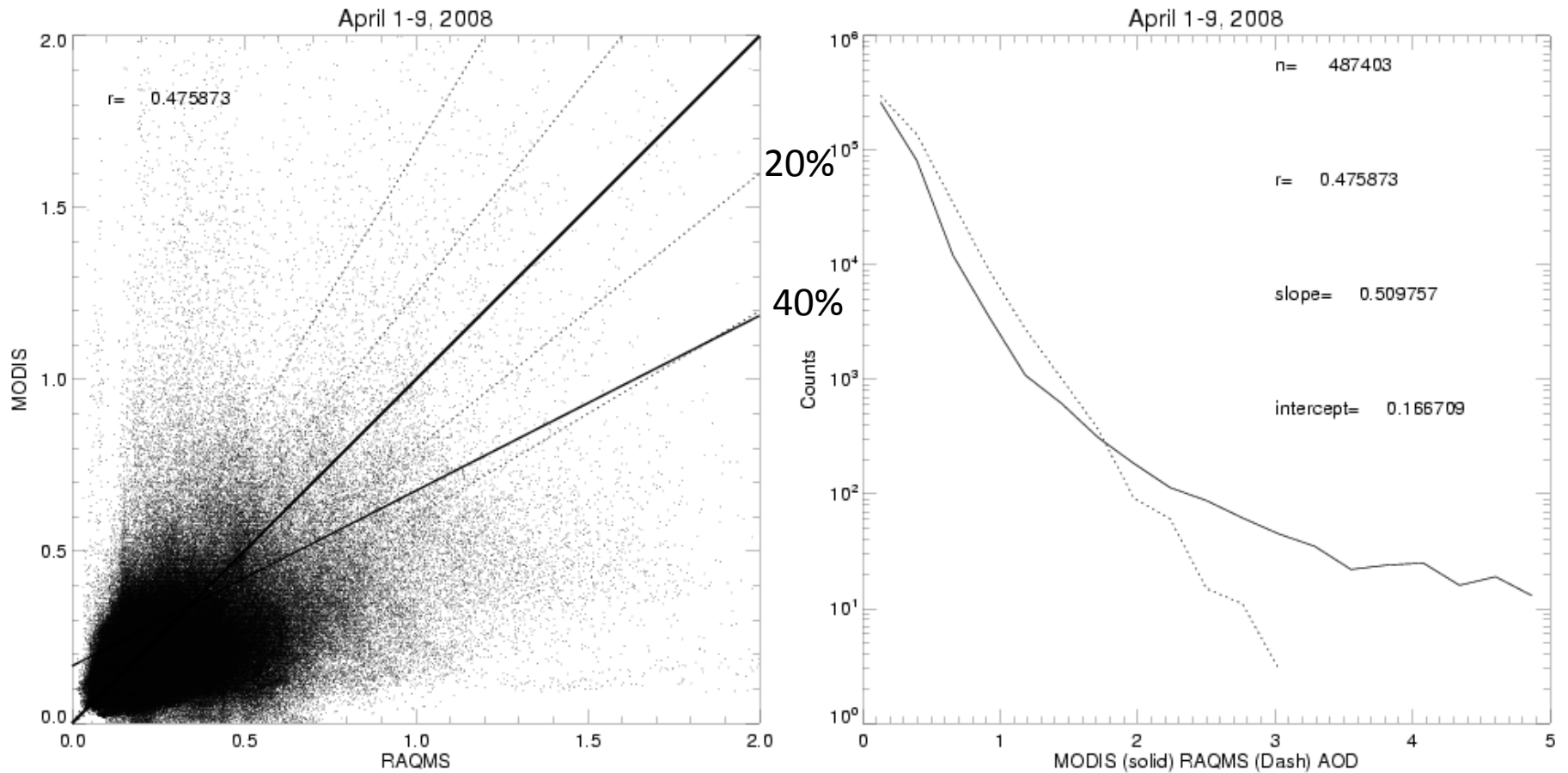
RAQMS (Terra) AOD
MOD04_L2.A20080409



RAQMS (Aqua) AOD
MOD04_L2.P20080409

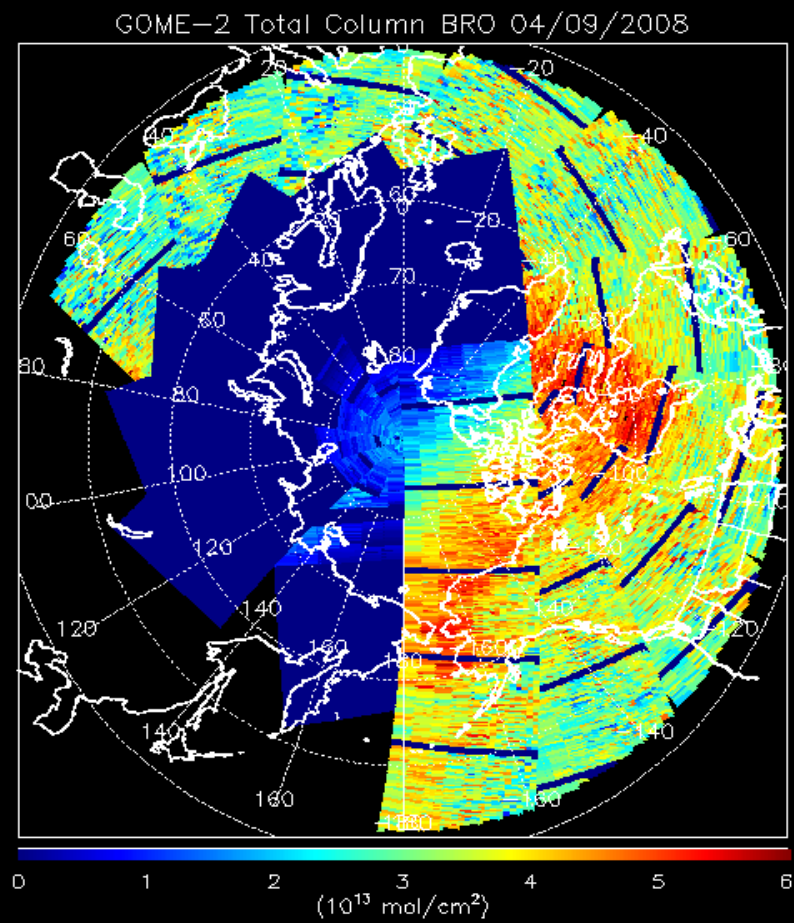
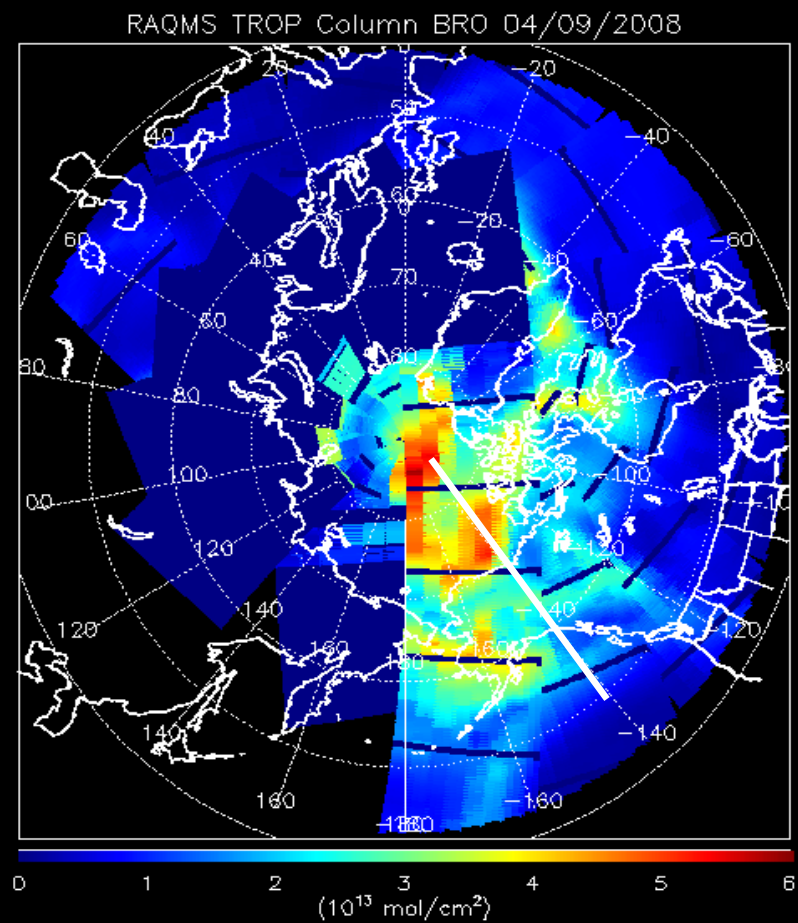


RAQMS vs MODIS AOD April 1-9, 2008 (Lat>50N)

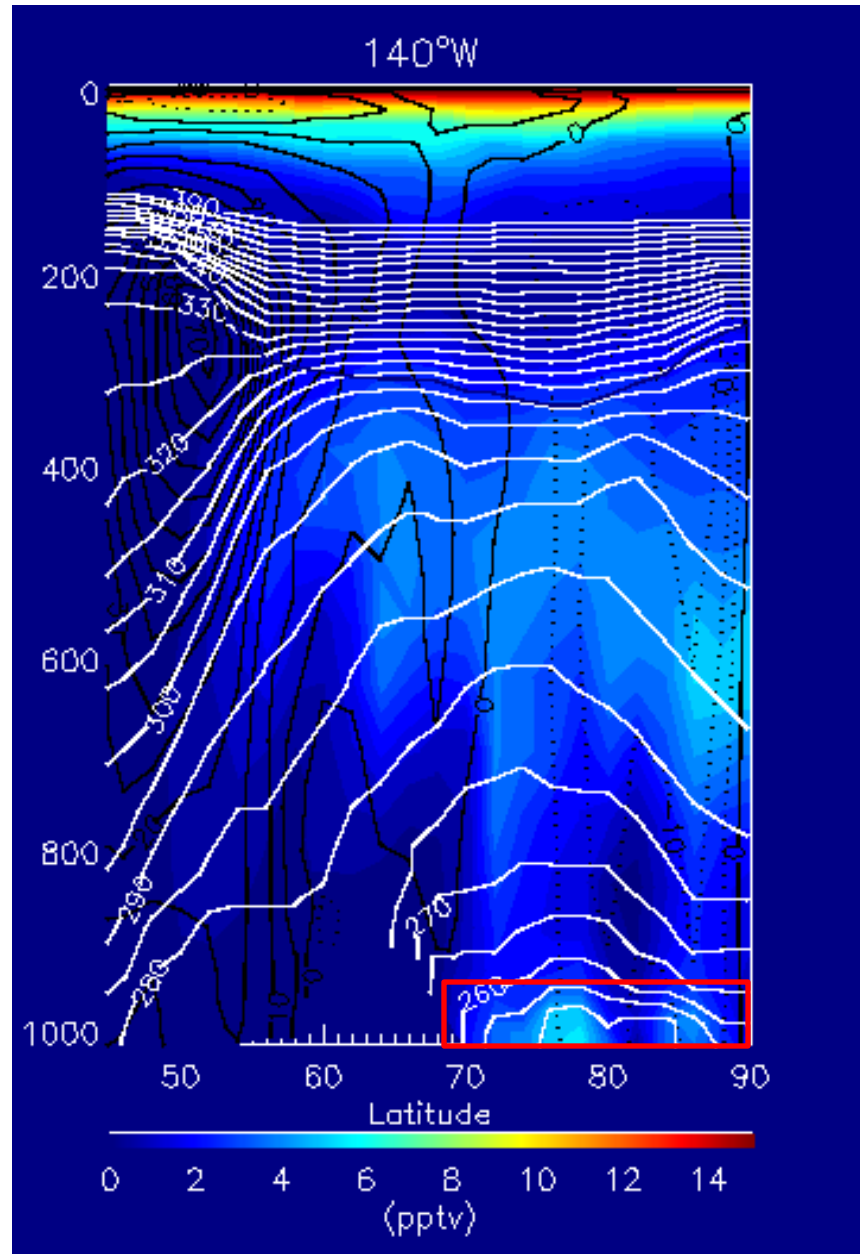


Note: Analysis increment not applied to Sea Salt AOD

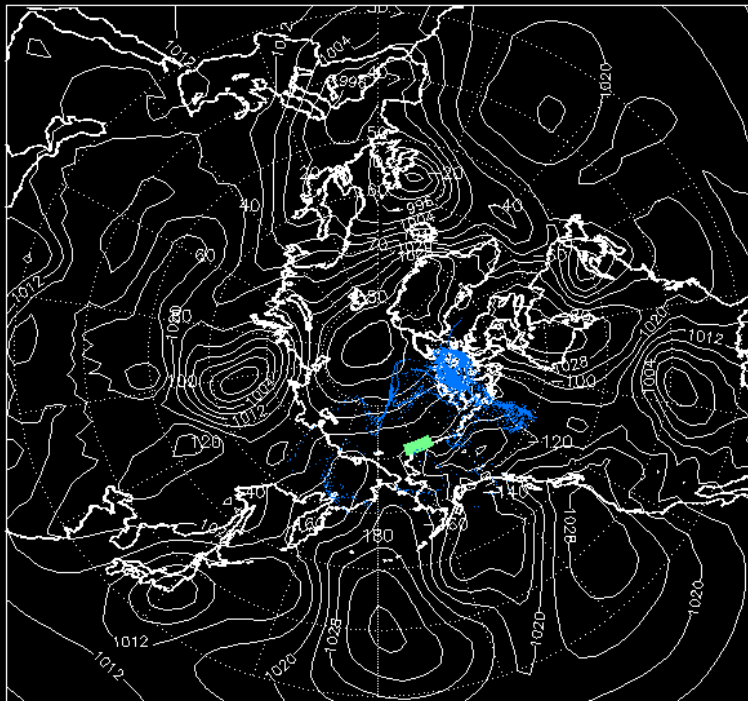
RAQMS (trop) vs GOME2 (total) BrO April 9, 2008



RAQMS BrO Y-section (140W) 00Z April 10, 2008



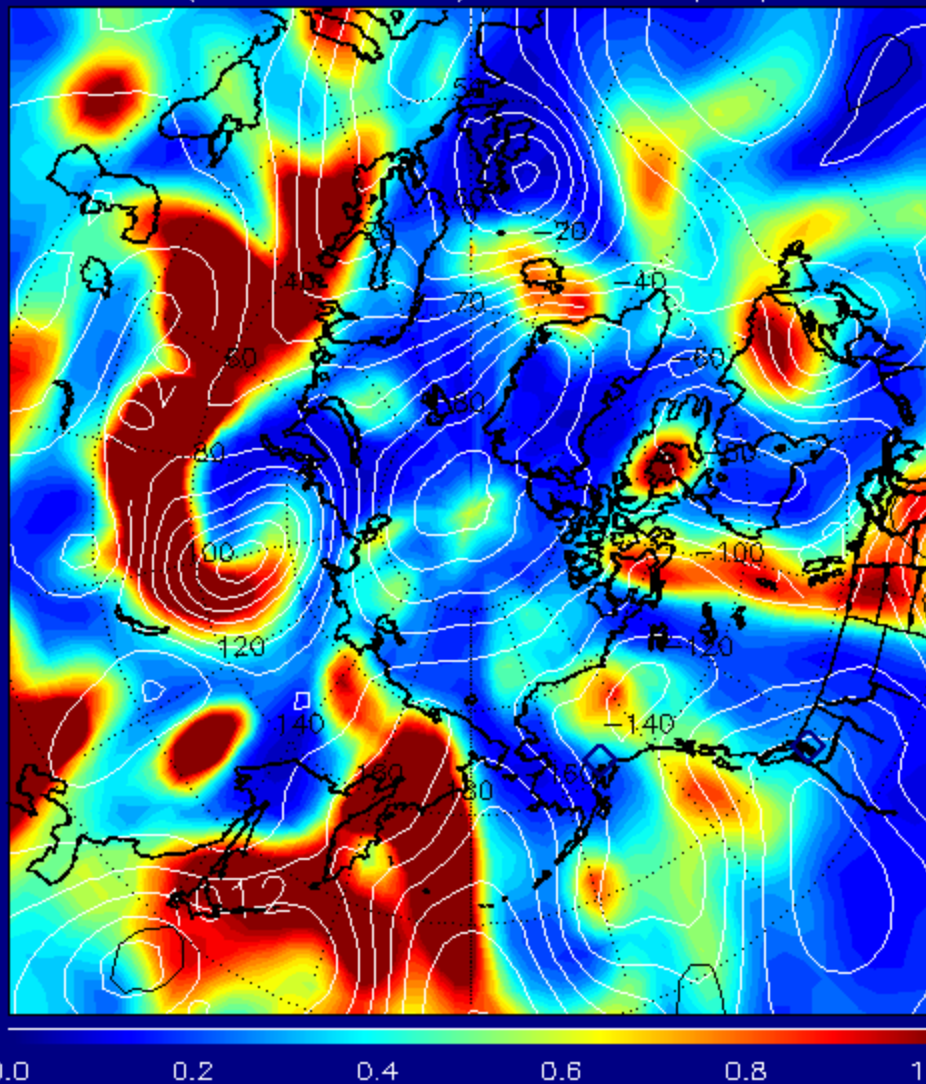
2008041100 Initial (Blue) and Final (Green) Lat/Lon
(Barrow Parcels below 5km)



00Z 04/11 (Thu afternoon)

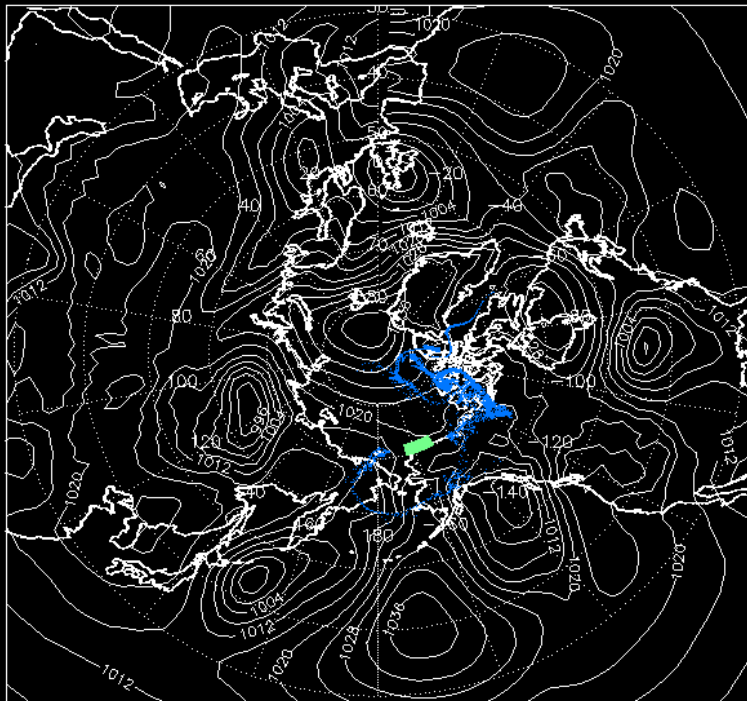
AOD Total Aerosol 00Z 20080411

(MSL Pressure Contoured/95% Convective Precip=Red)



RAQMS₆ 24hr ASSIM + 36hr Fx Initialized 12Z 20080408

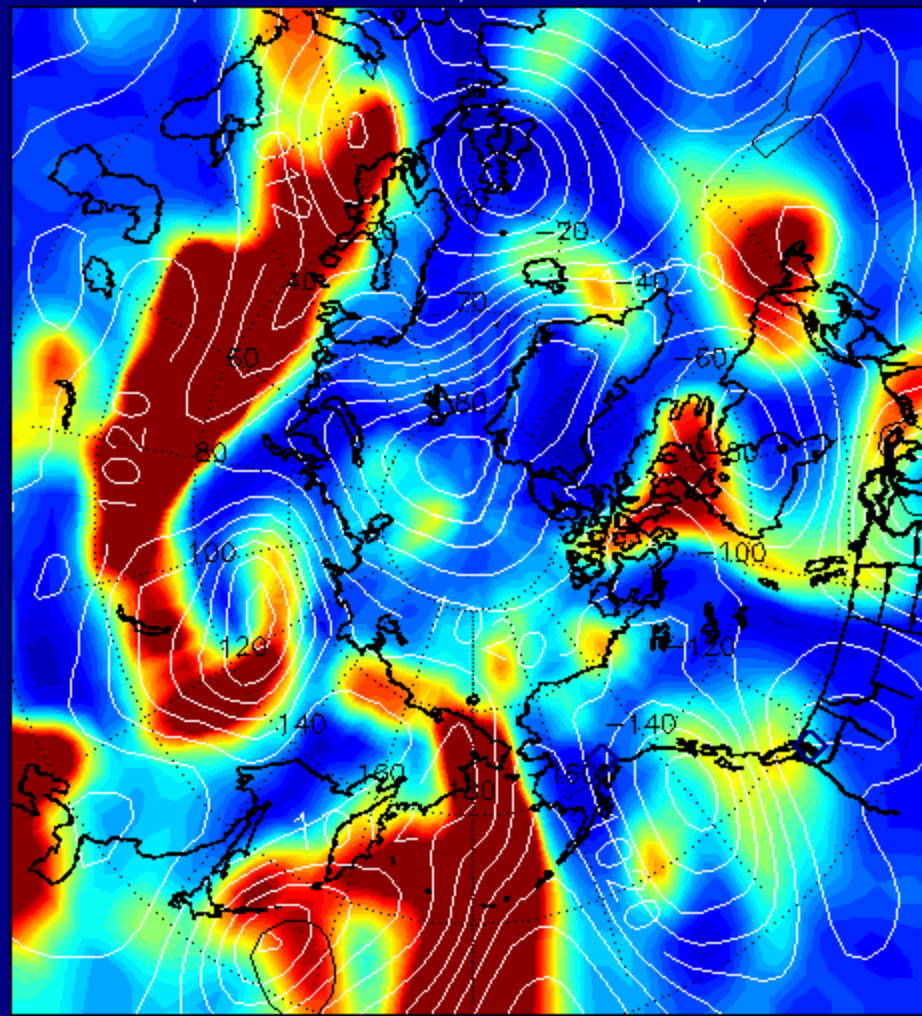
2008041200 Initial (Blue) and Final (Green) Lat/Lon
(Barrow Parcels below 5km)



00Z 04/12 (Fri afternoon)

AOD Total Aerosol 00Z 20080412

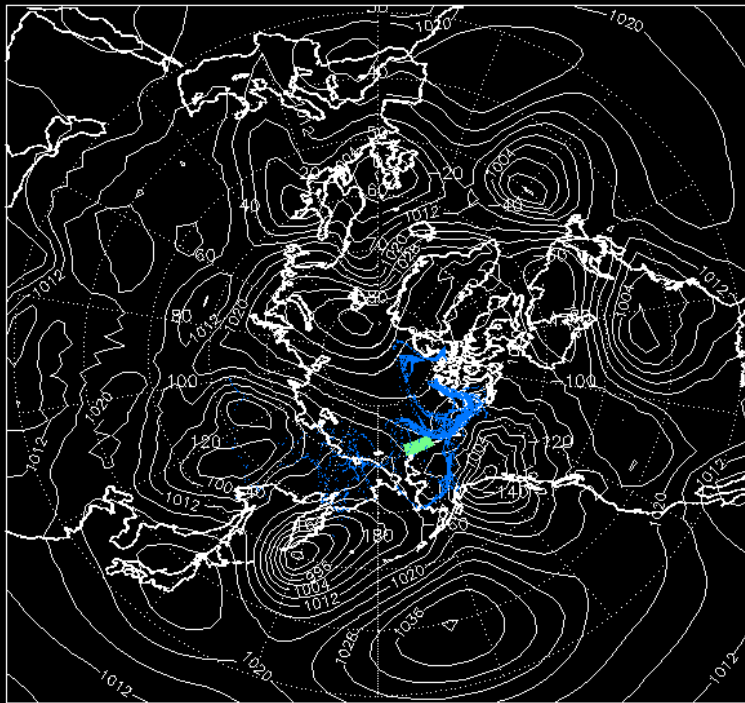
(MSL Pressure Contoured/95% Convective Precip=Red)



0.0 0.2 0.4 0.6 0.8 1.0

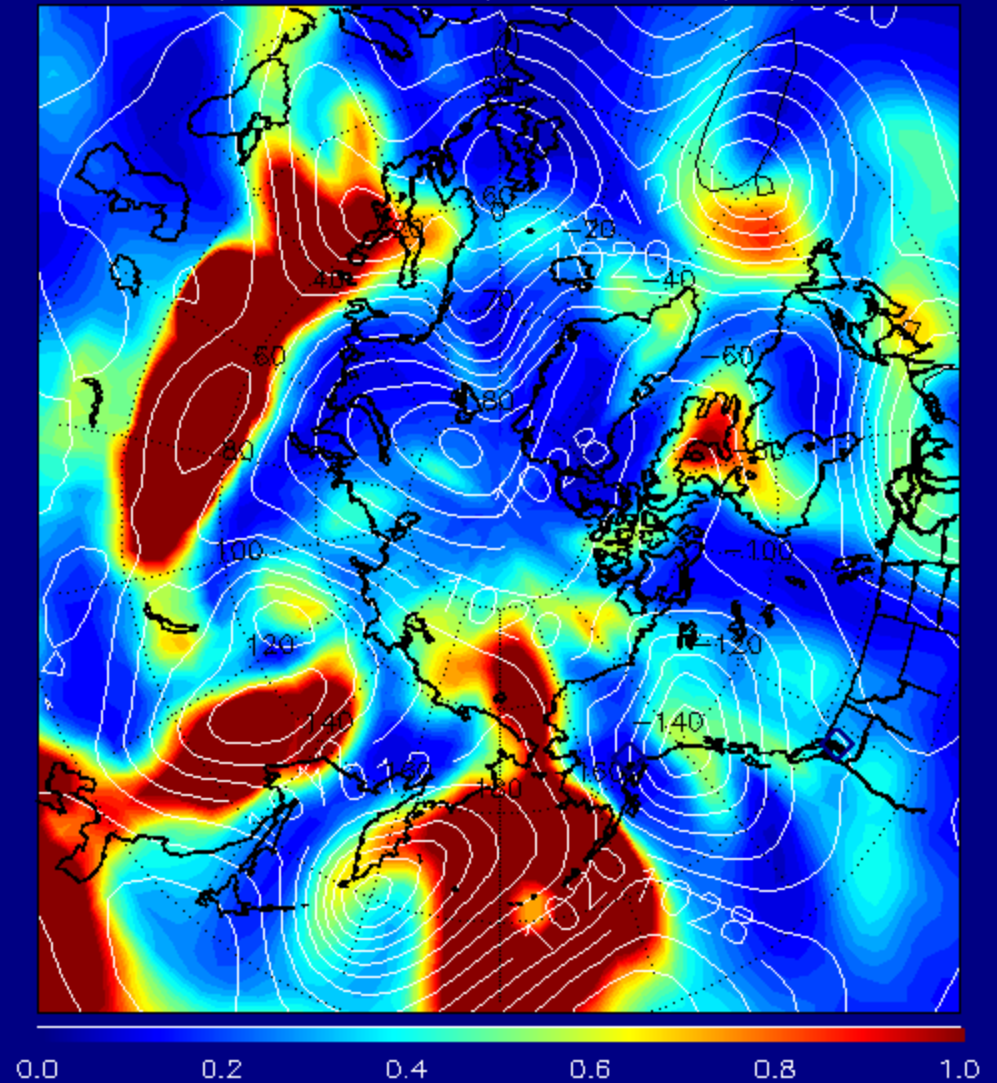
RAQMS₆ 24hr ASSIM + 60hr Fx Initialized 12Z 20080408

2008041300 Initial (Blue) and Final (Green) Lat/Lon
(Barrow Parcels below 5km)



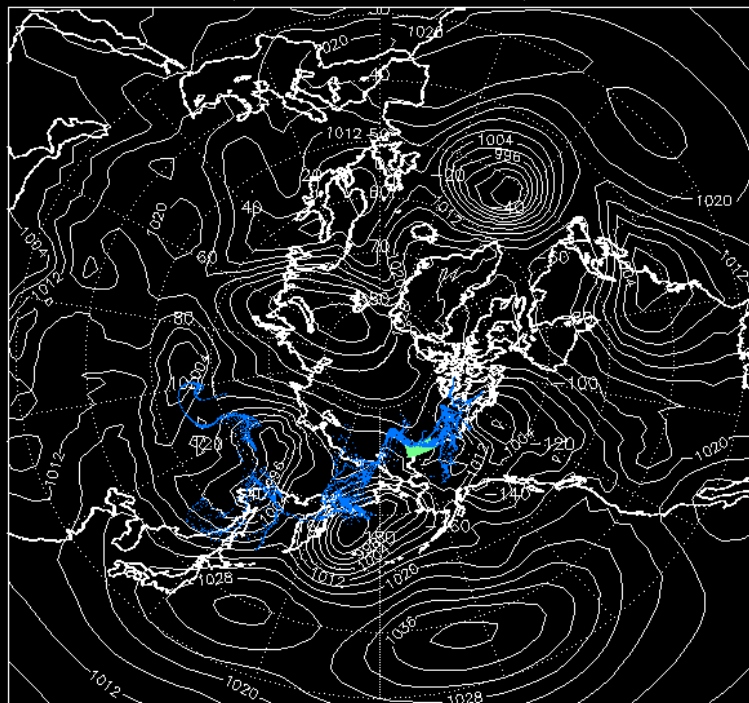
00Z 04/13 (Sat afternoon)

AOD Total Aerosol 00Z 20080413
(MSL Pressure Contoured/95% Convective Precip=Red)



RAQMS₆ 24hr ASSIM + 84hr Fx Initialized 12Z 20080408

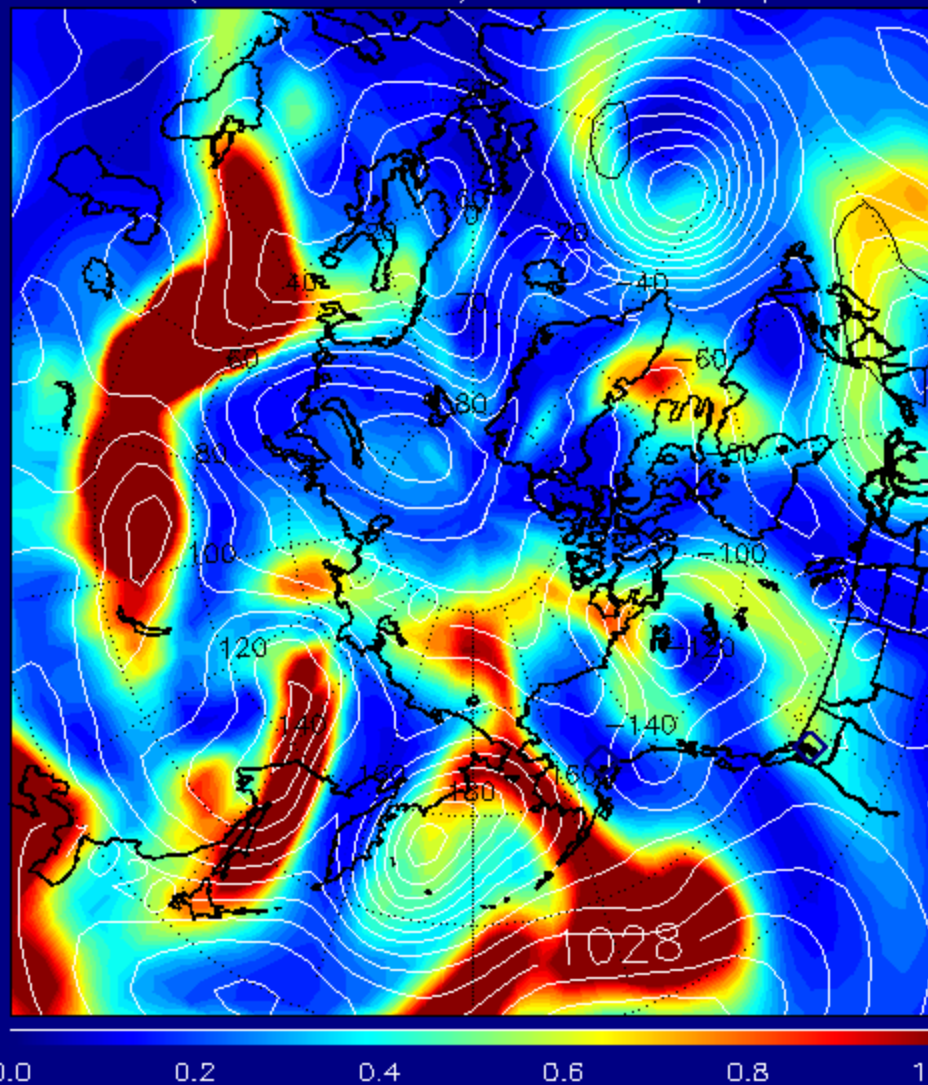
2008041400 Initial (Blue) and Final (Green) Lat/Lon
(Barrow Parcels below 5km)



00Z 04/14 (Sun afternoon)

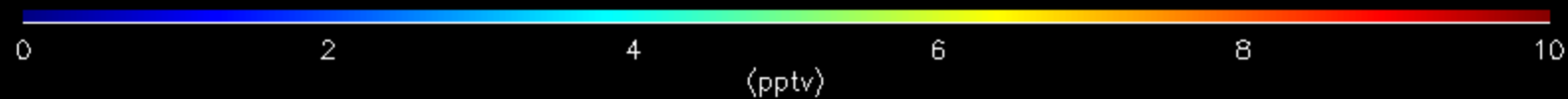
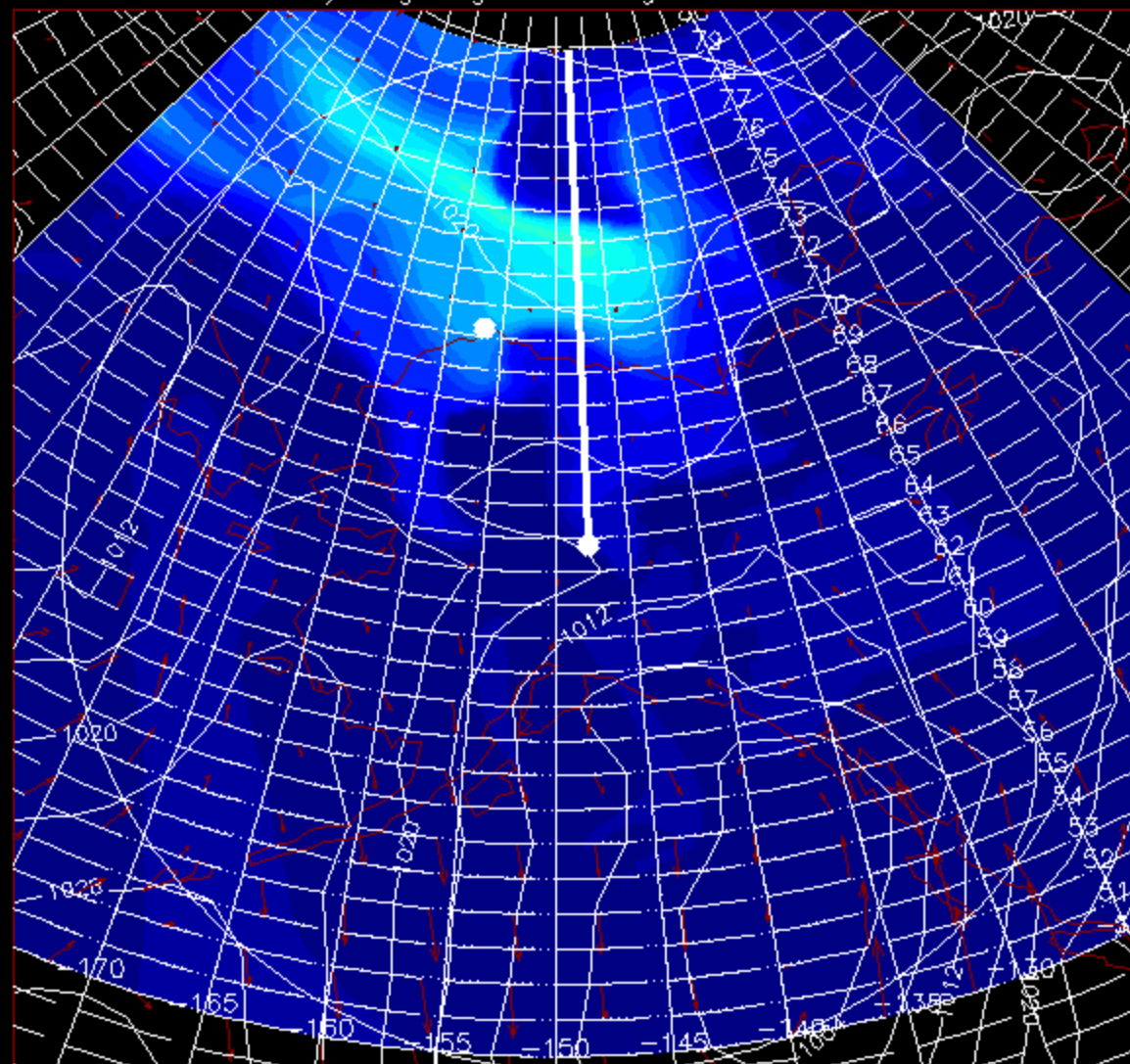
AOD Total Aerosol 00Z 20080414

(MSL Pressure Contoured/95% Convective Precip=Red)

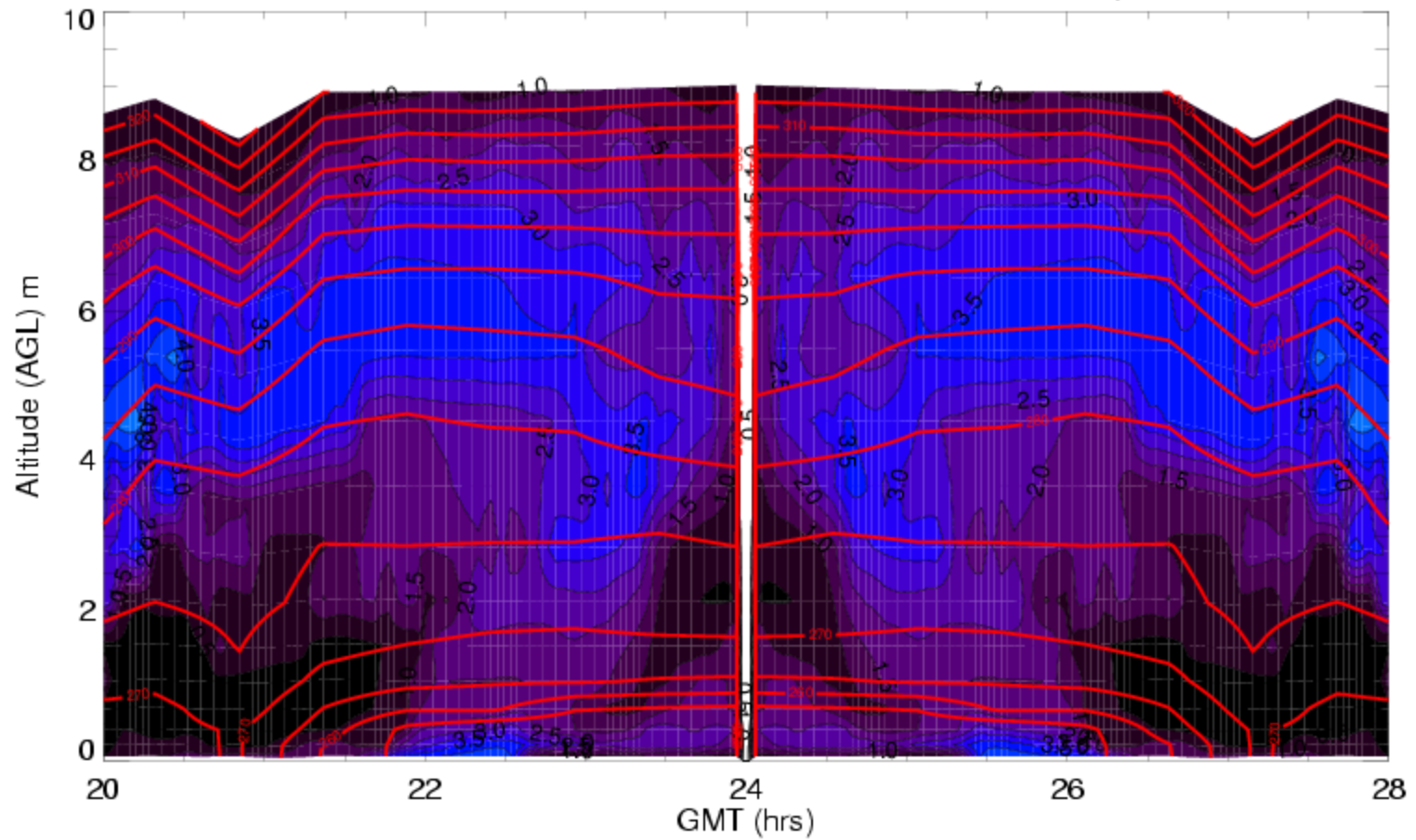


RAQMS_G 24hr ASSIM + 108hr Fx Initialized 12Z 20080408

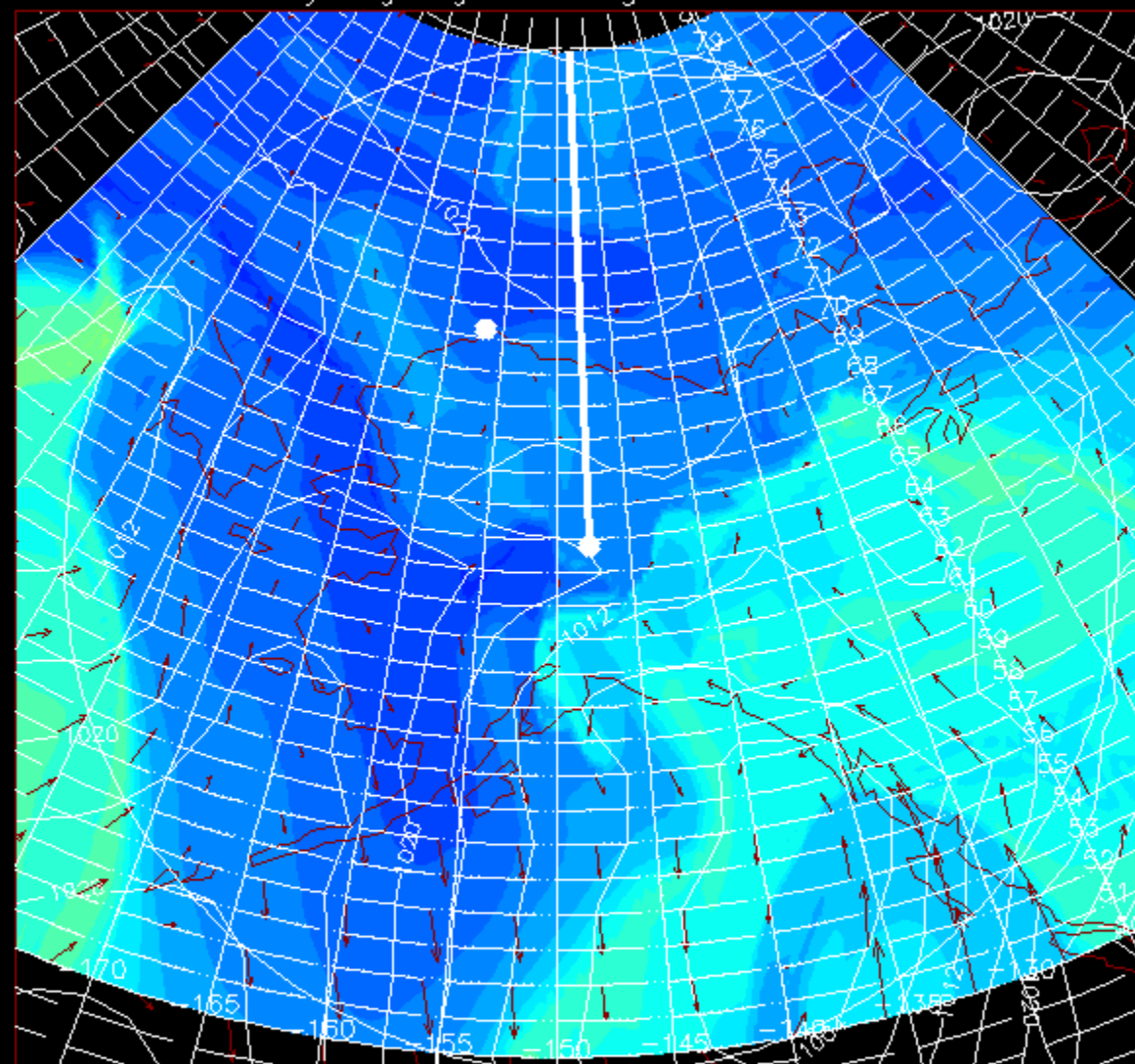
SFC 5-day Lagrangian Averaged BrO 2008041200



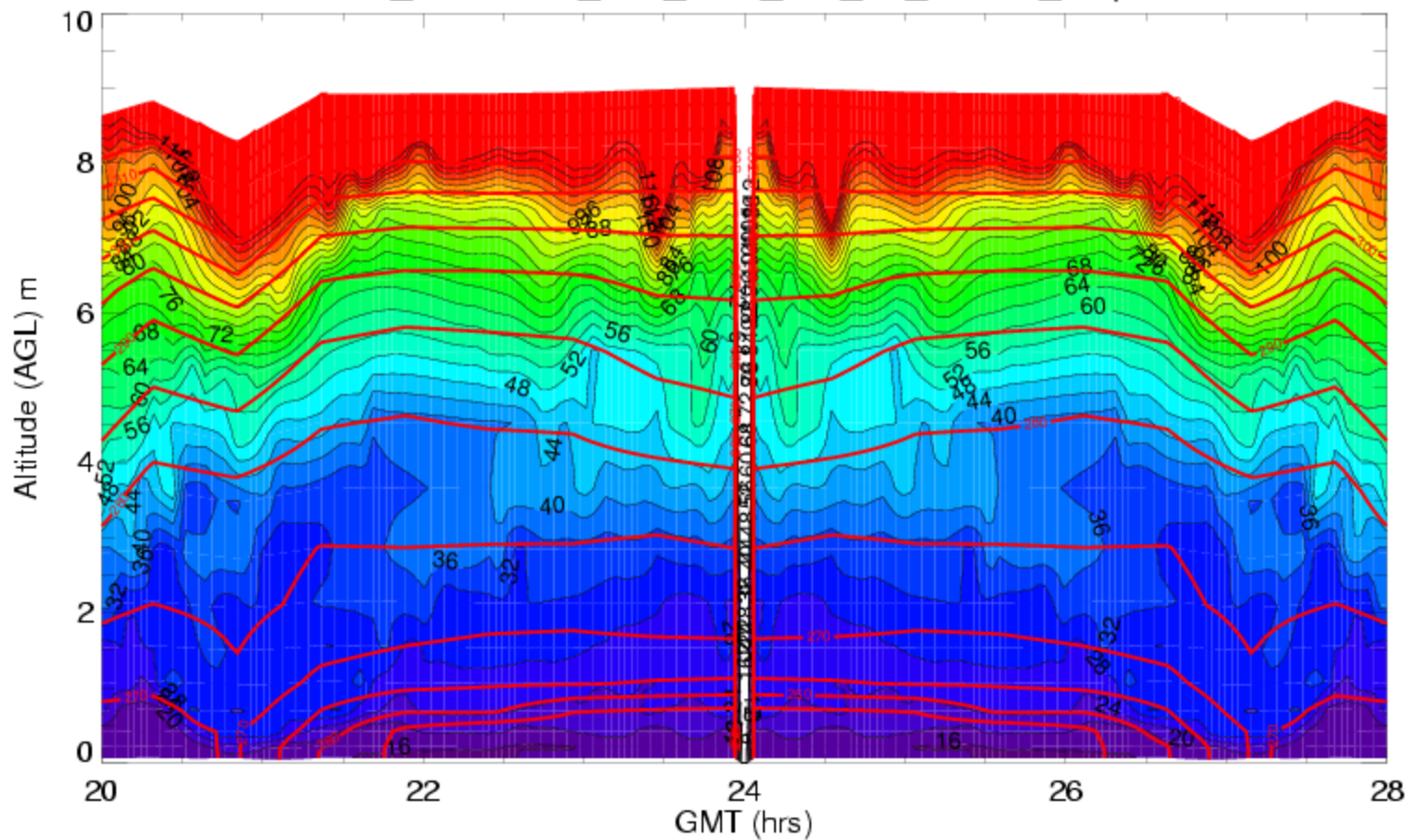
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RAQMS_20080412_00Z_60hr_fcst_rdf_curtain_arcpac.dat



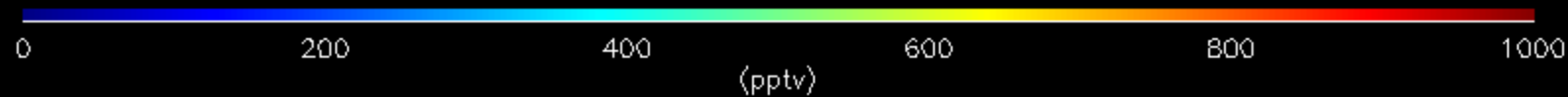
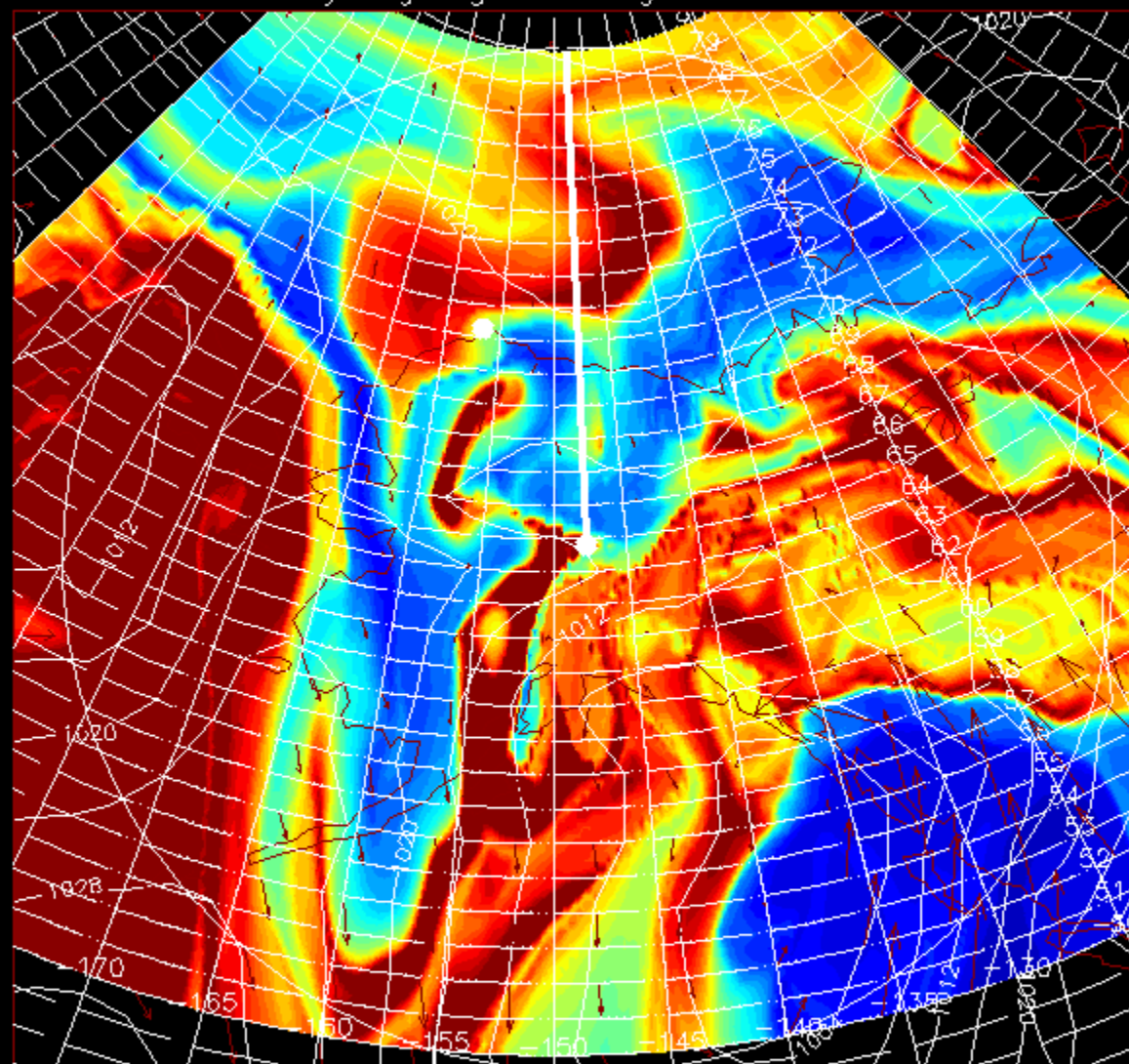
SFC 5-day Lagrangian Averaged Ozone 2008041200



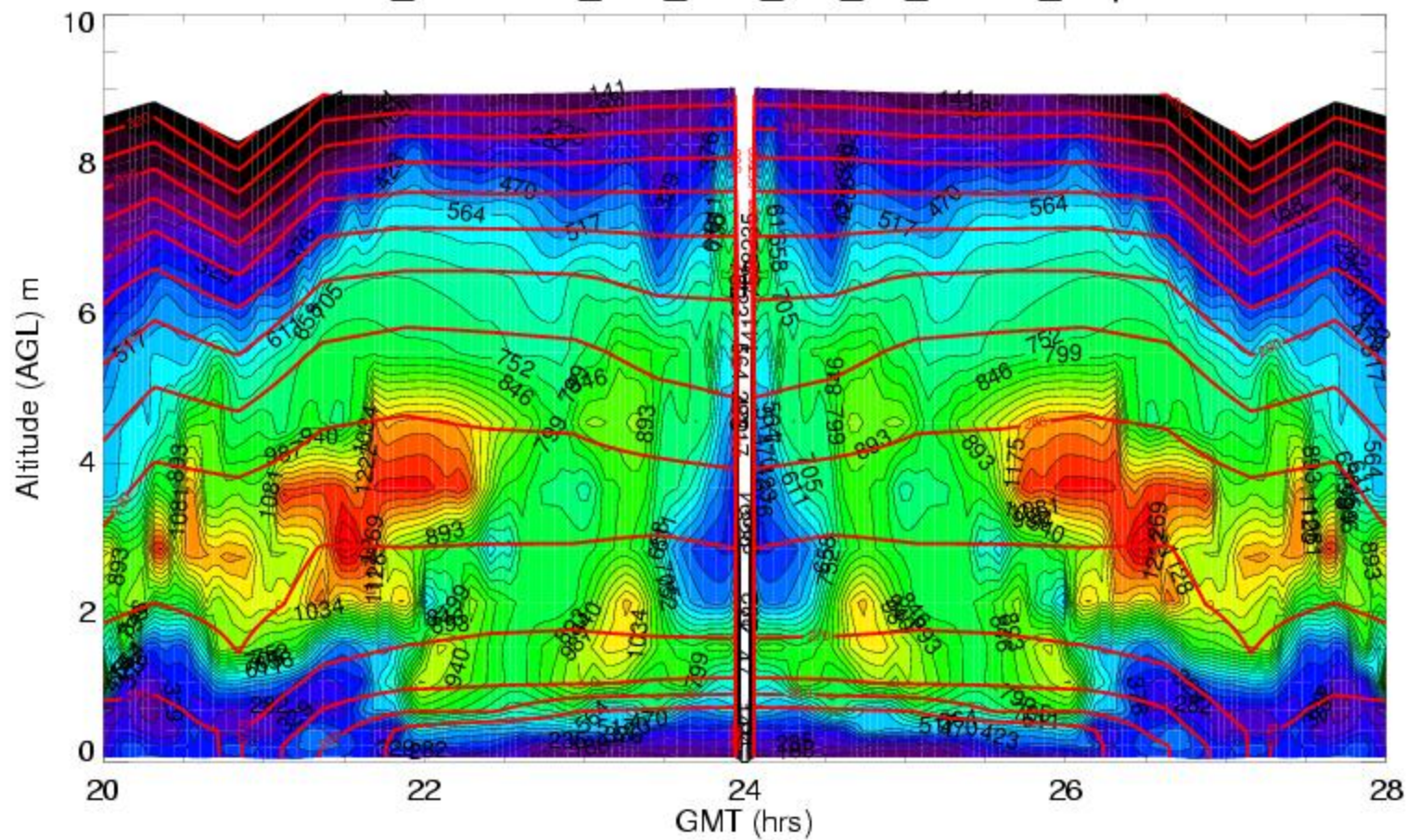
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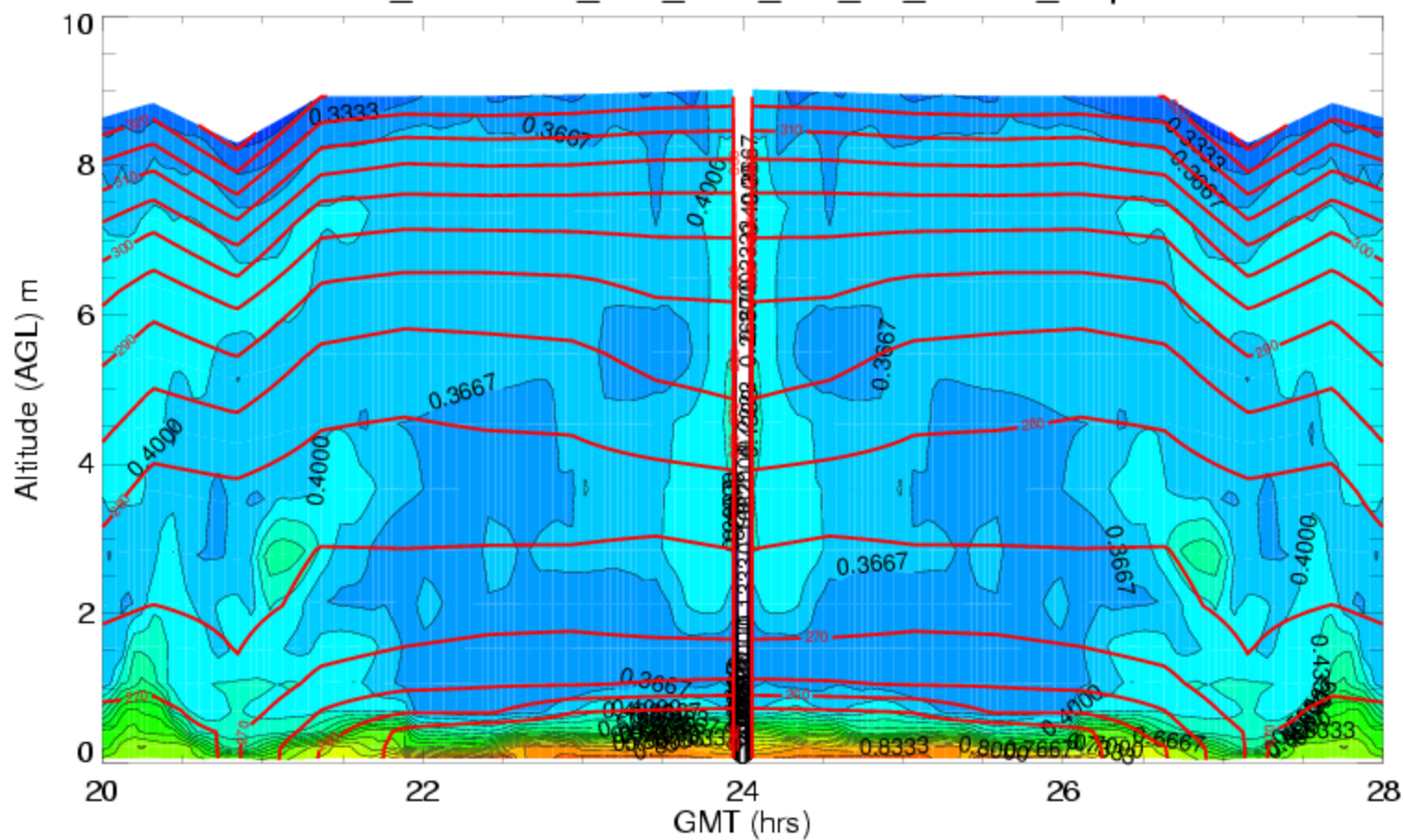
1km 5-day Lagrangian Averaged S04 2008041200



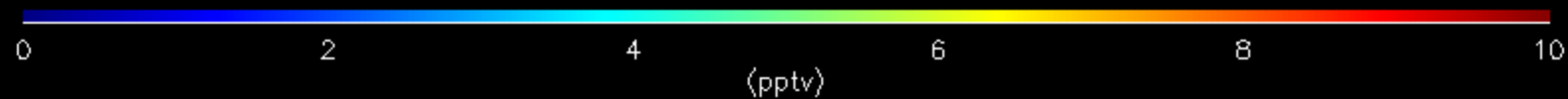
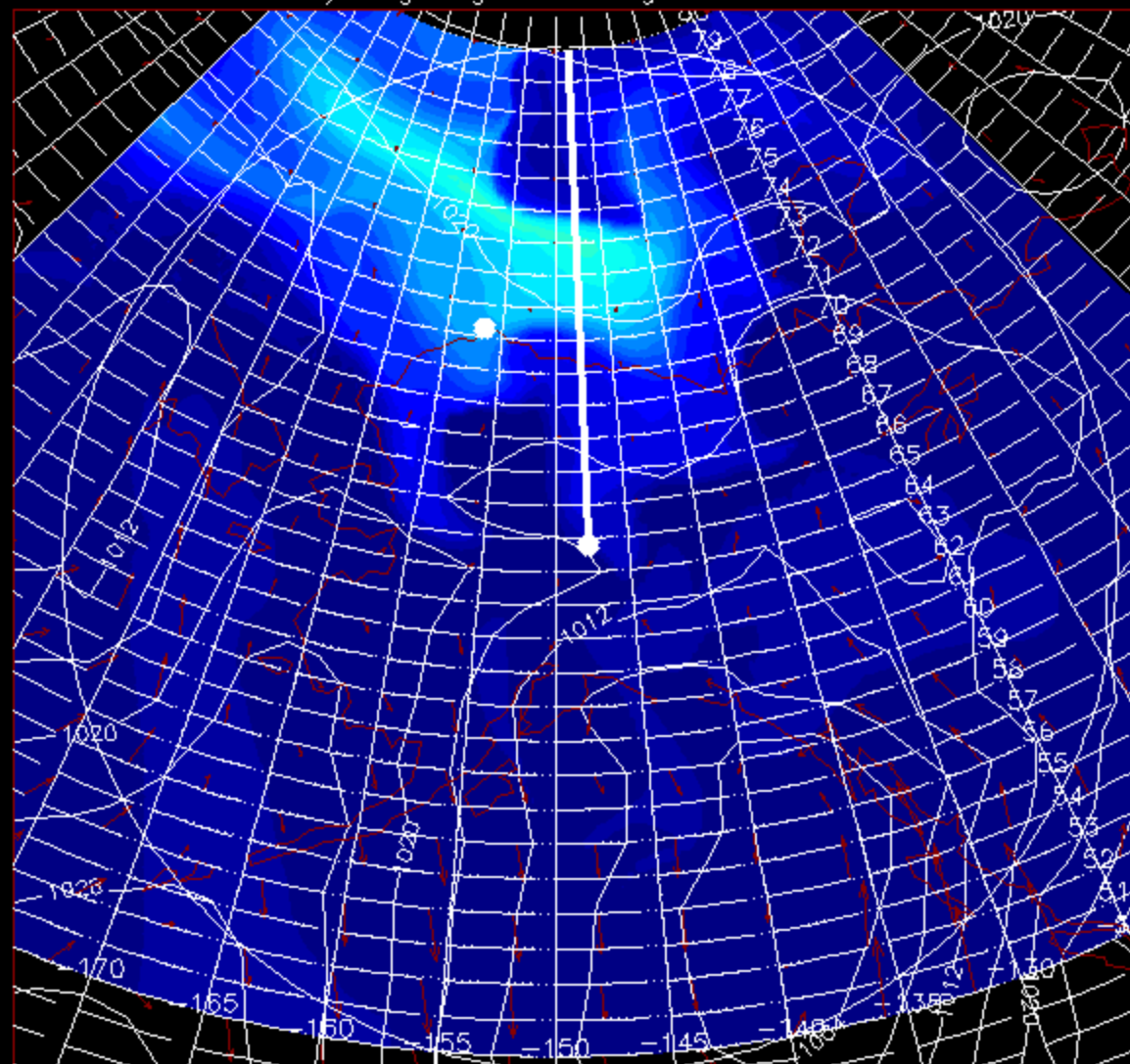
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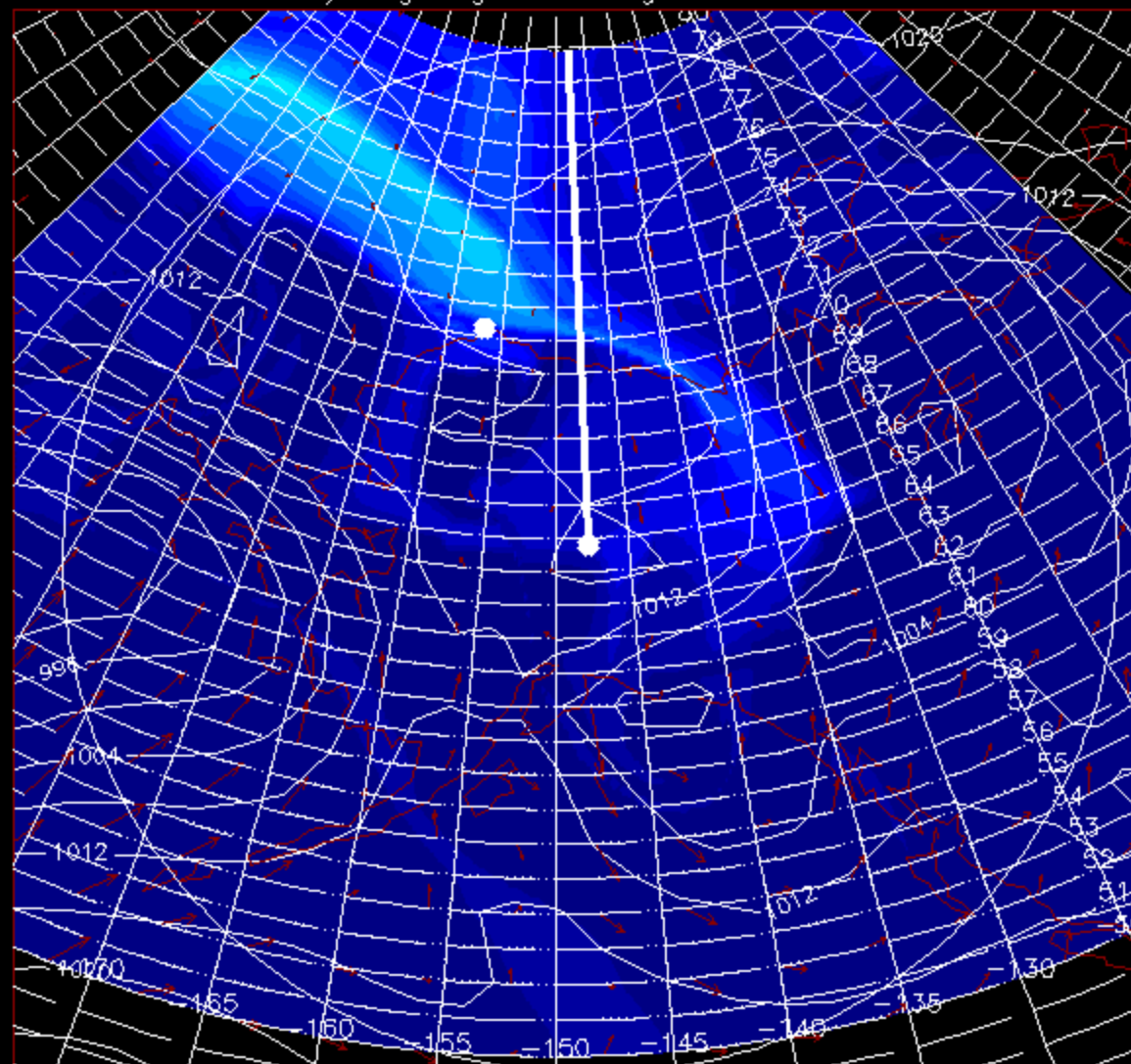
60hr FX ipannoy Cl= 0.0333333 max= 0.902904
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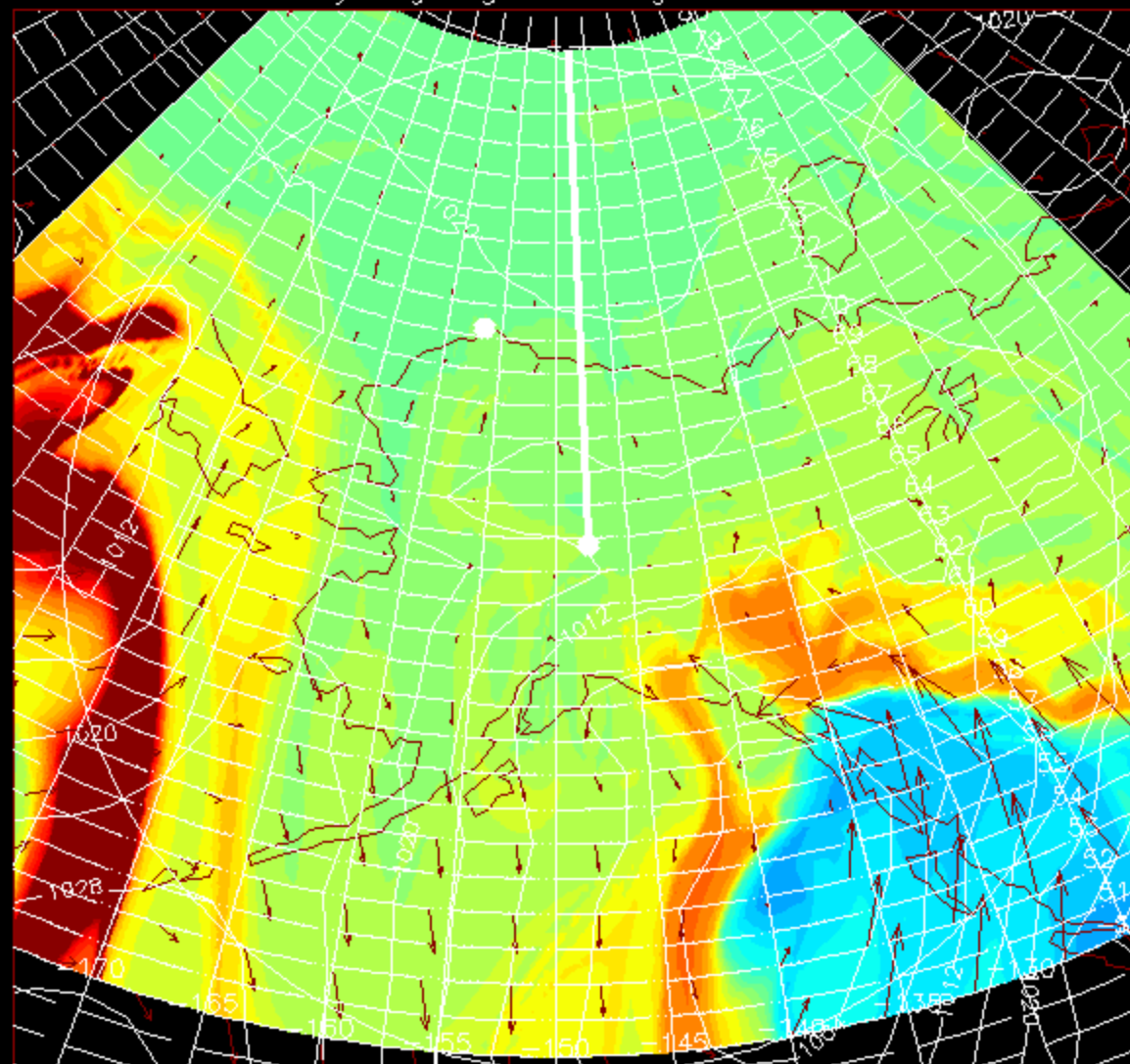
SFC 5-day Lagrangian Averaged BrO 2008041200



SFC 5-day Lagrangian Averaged BrO 2008041400



1km 5-day Lagrangian Averaged CO 2008041200



100

120

140

160

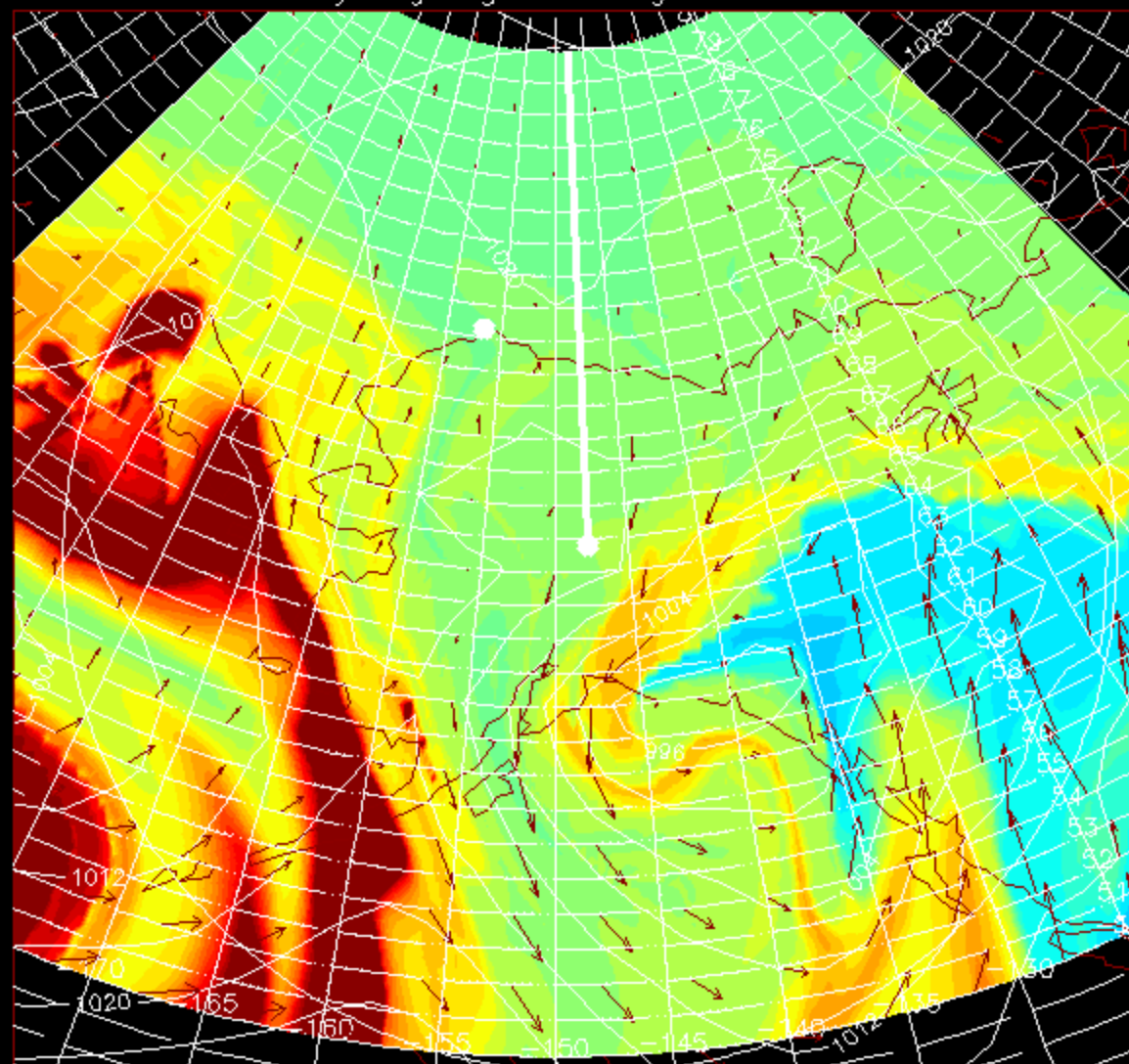
180
(ppbv)

200

220

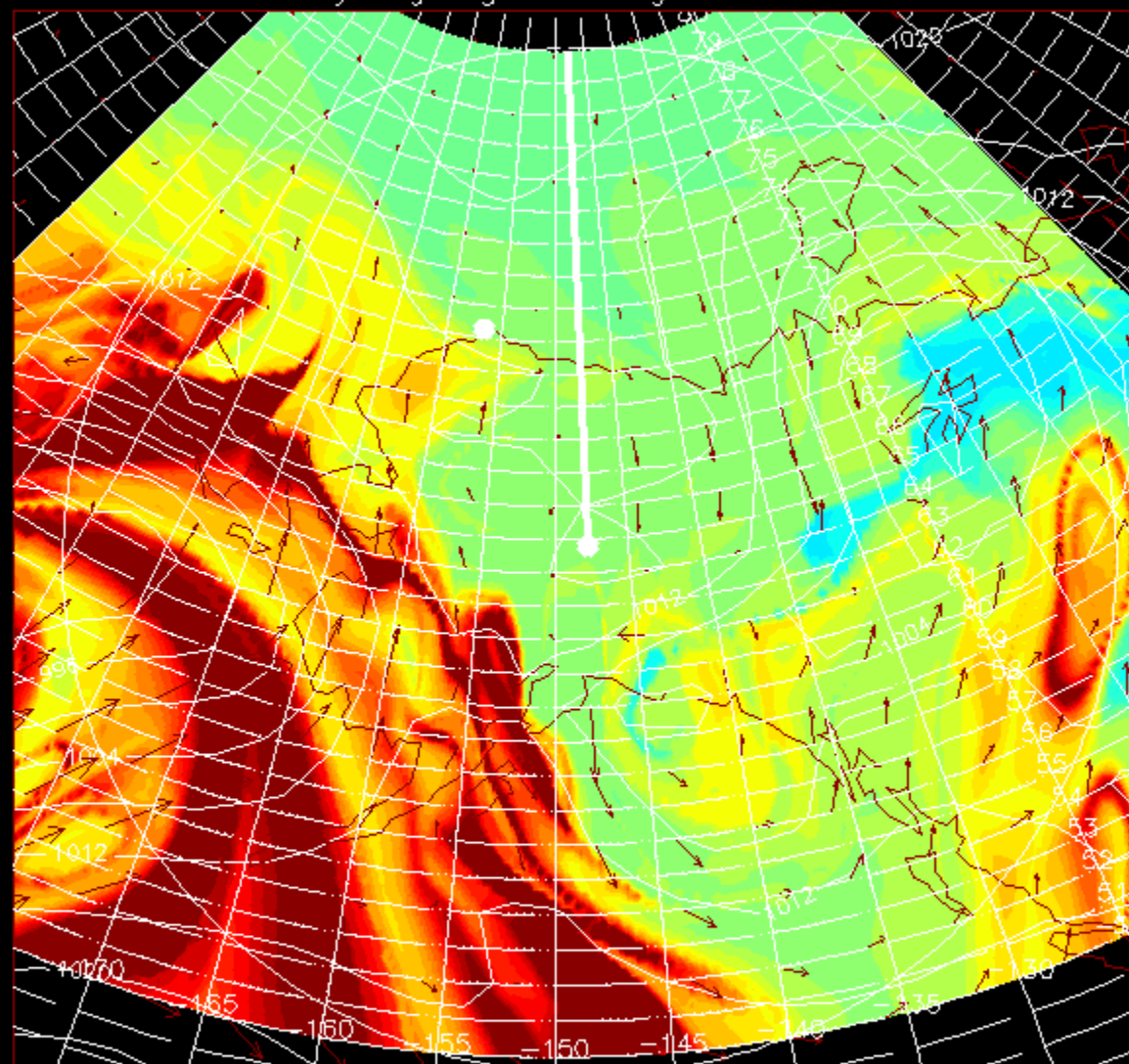
240

1km 5-day Lagrangian Averaged CO 2008041300



100 120 140 160 180 200 220 240
(ppbv)

1km 5-day Lagrangian Averaged CO 2008041400



100

120

140

160

180
(ppbv)

200

220

240